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SOLD ON

THE FARMERS' MANUAL
AND
COMPLETE ACCOUNTANT;
NEW METHODS OF PENMANSHIP;
LAW WITHOUT A LAWYER;
BUSINESS FORMS AND BUSINESS LAWS.
A COMPLETE TREATISE ON
INSECTS INJURIOUS TO VEGETATION.
HOW TO BREED, HOW TO TRAIN, AND HOW TO DOCTOR HORSES;
HOW TO DOCTOR
CATTLE, HOGS, SHEEP AND POULTRY.
A COMPLETE SET OF BREEDERS' TABLES.

EDITED AND COMPILED BY
PROF. J. L. NICHOLS, A.M.,

Assisted by Noted Specialists.

Revised and adapted to Canada by J. E. HANSFORD, LL.B., of Osgoode Hall, Barrister-at-Law,
Joint Author of "Evidence in Civil Cases," "Business Guide," etc.

Published by J. L. NICHOLS & CO., 33 Richmond Street West, TORONTO, ONT.,
To whom all communications must be addressed.

SOLD ONLY BY SUBSCRIPTION

FOURTH EDITION

S501
N5
1895
fol.

Every person has two educations, one which he receives from others, and one more important, which he gives to himself.—*Gibbon*.

THIS VOLUME

Will be promptly sent, postpaid, on receipt of \$2.25, if directed to the address at the foot of the title page, when you know of no Agent in the vicinity.

No copies sold for less than the above price except in lots to active Agents.

AGENTS WANTED.

Entered according to Act of the Parliament of Canada, in the year one thousand eight hundred and ninety-five, by John A. Hertel, at the Department of Agriculture.

A SPECIAL AGREEMENT.

The Account Book Department of this work, when filled, will be replaced with a new set of blanks same as the original, by sending the book to the author, at one-half a cent per page for cloth binding and one cent per page for half leather binding.

—NO EXTRA CHARGE FOR RE-BINDING.—



The
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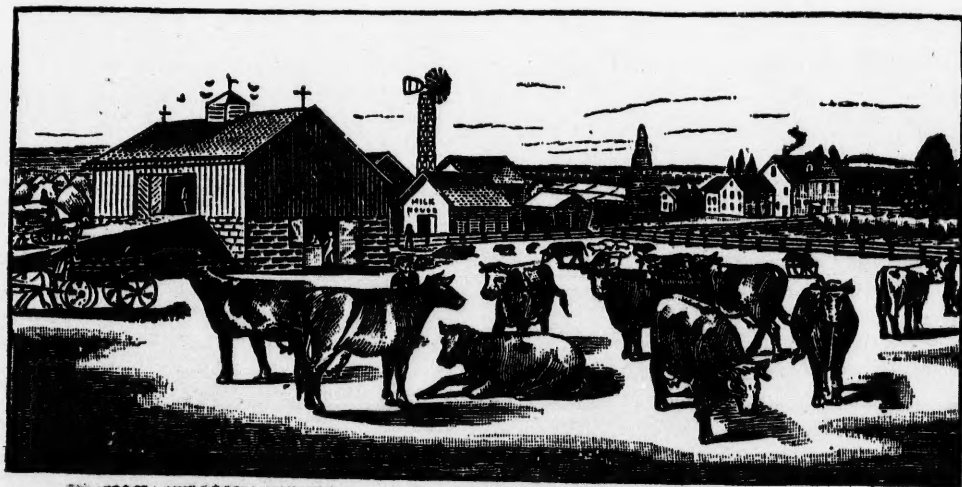
important.

dress at the



The proprietor of above farm never reads the papers, nor does he care for education or books; he does not keep a record of his business at all. Not interested in "Farmers' Manual," though he needs it very badly.

h a new set
er page for



The proprietor of this farm firmly believes in education, and will buy and read good books, consequently he is prosperous. This man studies such books as the "Farmers' Manual," and keeps an accurate account of his business, which evidently pays him well.

INSTRUCTIONS

FOR USING

THE FARMERS' MANUAL.

1. **THE FARMERS' MANUAL** is one of the most complete and practical books ever placed into the hands of the farmer. It will be a safe guide in business and a correct guide in keeping accounts.

2. **Penmanship.**—The copies of the penmanship department are from the pens of the best penmen in America. They should be carefully studied and used as copies for practice. A few months of faithful work will make a good penman of the poorest writer.

3. **Book-keeping.**—The sets given in the following pages are to be used as models. The transactions written up are also given in full, so that every student will plainly see the simplicity of the arrangement. Book-keeping is an easy study and should be understood by all. Study the transaction first, and then study up the transaction written out in detail.

4. **Book-keeping in the Account Department.**—The blank book department is ruled to meet the long-felt wants of the farming classes. It is complete and to the point. The accounts written up will clearly point out the way for using the blank book department. It pays to keep your accounts correctly. A written record of your business transactions may sometimes be worth a great deal of money as well as considerate pleasure and satisfaction. Be negligent no longer. Keep a record of your expenses and look them over often. It will help you in your business.

5. **Business Forms.**—This department of the work is a new and novel feature. The "business forms" as they occur are taken directly from actual business. They are the same size and the same form. The script type shows what is written in filling out the blank document, and the common type shows the form as printed before it is used in actual business. He who becomes familiar with all the *business forms* in **THE MANUAL** will understand the actual business transactions.

6. **Business Law.**—This department will speak for itself. All the laws pertaining to the farm and farm business are concisely and correctly given.

7. **The Insect Department.**—The time for raising fruit and many garden vegetables has gone by, unless some attention is given to the modern system of spraying or other methods of insect extermination. **THE MANUAL** gives all the different receipts for spraying and all modern methods for the extermination of farm and field pests. Every farmer should know something of the habits of insects as well as remedies for their extermination. **THE MANUAL** will give the desired aid.

8. **The Horse Department** will speak for itself. It is just what every farmer needs and must have if he is a practical man. The best bred horses in America are shown by beautiful illustrations, drawn by the best horse artist in America. Every horse is a perfect illustration of the original. The Medical and Training department has been prepared by the highest veterinary authorities.

THE FARM

1. Indifference
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7. If you
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use it.
9. A boy is
10. Honor
11. Concei
him up.
12. Wise
kind word is



SAFE BUSINESS METHODS AND GOOD ADVICE.

1. Indifferent or careless methods of business produces trouble between relatives, neighbors and friends; creates dissatisfaction with those with whom business is transacted; produces controversy, often blows, and even murder.
2. "Be sure you are right, then go ahead," should be the maxim of every one who transacts business.
3. Millions of dollars are expended every year in law suits, and lawyers are paid fabulous fees, simply because people do not do business in a business-like way.
4. Anger blows out the lamp of the mind.
5. Keep cool and you command everybody.
6. If we estimate dignity by immediate usefulness, Agriculture is, undoubtedly, the first and noblest science.
7. If you keep a bank account long enough, it will one day keep you.
8. The best way to keep good your credit is never to use it.
9. A boy is better unborn than untaught.
10. Honor and profit do not lie always in the same sack.
11. Conceit may puff a man up, but it will never prop him up.
12. Wise sayings often fall on barren ground, but a kind word is never thrown away.
13. A pound of pluck is worth a ton of luck.
14. Pile luxury as high as you will,—health is better.
15. Lies exist only to be extinguished.
16. Little things are great to little men.
17. Politeness goes far, yet costs nothing.
18. Who gives a trifle meanly, is meaner than the trifle.
19. The miser robs himself.
20. Moderation is the pleasure of the wise.
21. A "crank" is all right, if you turn him the right way.
22. He that buys what he does not want will soon want what he cannot buy.
23. An obstinate man does not hold opinions, but they hold him.
24. Not only strike while the iron is hot, but make it hot by striking.
25. Tyranny and Anarchy are twin-sisters.
26. The end of all government is the happiness of the people.
27. A good name is better than bags of gold.
28. The great heroes are the great, brave, patient, nameless people.
29. A bad man becomes a worse man when he claims to be a saint.

boast of your profits. Do not go about telling people what you are doing or what you propose to do. The successful business man, like the successful general, conceals his plans until he has fully matured and perfected them, and until the proper time for them to be known. Young men in the employ of others should know that their employer's business is their secret, to be kept strictly confidential. There are some people who can hardly keep a secret. It rankles and burns their brain, and they have no rest until it is disclosed to some one. Such persons will never attain a high degree of success.

6. **Foresight.**—The faculty of looking into the future and divining what will come to pass is of supreme importance in business life. The greatest success is found where this qualification is greatest. The man of foresight has just the articles that are in greatest demand. He owns acres of land now sought at high prices for building lots. Others say he is "in luck," but the truth is he foresaw the demand and prepared for it. It was not luck but calculation.

7. **Depend Upon Your Own Efforts.**—There is no short cut, no royal road to permanent success. Thousands have tried to find one; but they have all failed, miserably failed. Not advantages of birth or wealth, neither genius nor opportunity make the man; but his own efforts, his own right arm and manly enterprise—they achieve for him success, and wealth, and renown.

Do not be mercurial. Extraordinary success should not unduly elate you, nor, on the other hand, should discouragements easily depress you. A varying success is what you may expect; only do your duty.

8. **Business and Society.**—Cultivate friends and acquaintances in business. The former are won by years,

of honesty and integrity; but the latter are the daily reward of a courteous and affable demeanor. You may succeed without giving much thought to the social side of nature, but you will be compelled to labor a lifetime for the same reward you could have obtained in a few years. Enlarge the circle of your acquaintance among those who are so situated in life as to become your customers as far as you can without taking too much time from your business. Do not consider an hour or an evening taken occasionally for social interests as entirely lost. On the contrary, you should feel a citizen's interest in the moral, intellectual and benevolent enterprises of your neighborhood. The influence of every intelligent and upright business man in a community is beneficial, and it is your duty to exert this influence for the general welfare, not looking for any reward personally, but accept that compensation which comes from an extended favorable acquaintance.

Beware of being drawn into social matters to the extent of causing a neglect of your business. Do not allow yourself to be president of this, secretary of that, and treasurer of the other, so that your time and energy is taken up with these matters to the injury of your business. Do not allow your store or office to become a club-room or a place for political meetings.

9. **A True Duty.**—Always regard the duty of exactness and promptness in fulfilling contracts and promises, no matter how trifling, and uniformly manage your business on these principles, not only strictly carrying them out in your own obligations, but strictly requiring them of others, and you will do much to keep alive and active that high sense of honor in the community which induces a man to consider his word as good as his bond.

SELF-MADE MEN.



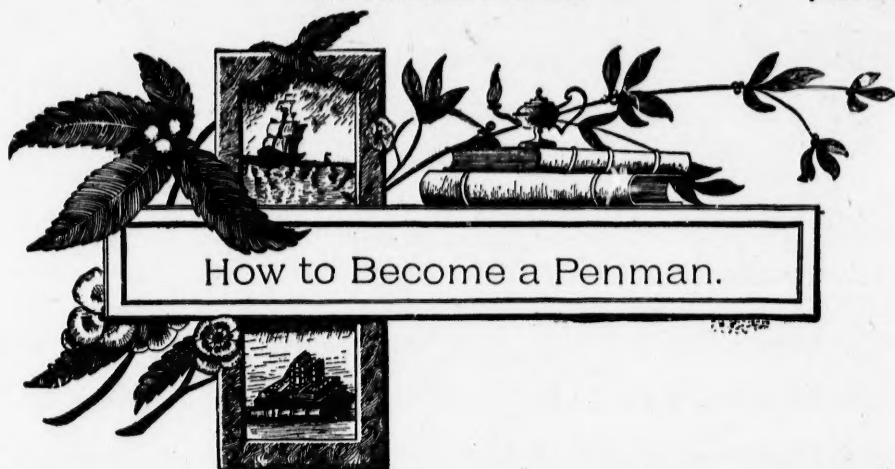
SIR OLIVER MOWAT.



SIR JOHN A. MACDONALD.



SIR JOHN S. D. THOMPSON.



HOW TO LEARN TO WRITE, OR BECOME AN EXCELLENT PENMAN.

1. Good Copies.—When you practice, study the copy, see its harmony, and you will discover more of its beauty and find greater inspiration and interest in practicing. A successful student in penmanship must study the art and cultivate the beautiful, and practice until he can perfectly imitate the copy.

2. Material.—Have good paper. Do not buy a lot of cheap trash because it is cheap, but procure a good quantity and quality of paper and plenty of good steel pens. Use Spencerian Pen No. 1, Musselman's Perfection Pens, and you will also find some good pens among the Esterbrook and Gillott make. First find a pen that suits you best and then procure a box. It is much the cheapest to buy pens by the quantity.

3. Gold Pens.—Do not use gold pens while practicing. While learning to write always use a steel pen. Gold pens are very good after a good hand has been mastered.



4. Correct Position.—When writing sit at the desk or table in a position that is perfectly convenient and comfortable. Sit so that no portion of the body is

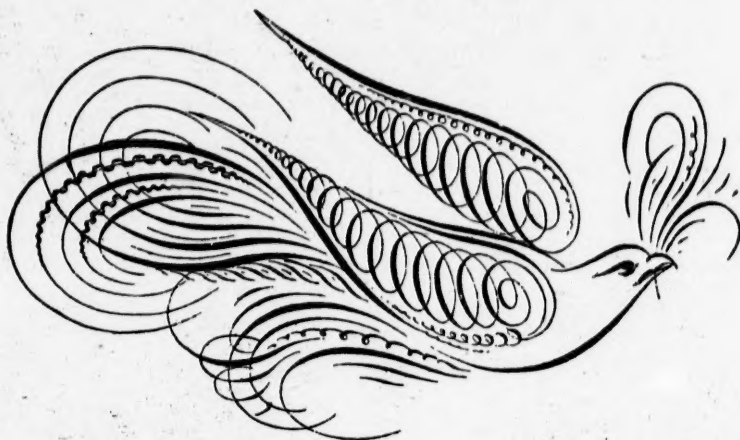
cramped, and let the arm rest easily upon the table or desk. Do not sit with the feet upon the rounds of the chair. Keep your feet firmly upon the floor.

5. How to Hold the Pen.—Hold the pen so that the holder points over the right shoulder, and do not let the penholder drop below the knuckle joint of the forefinger.

6. Movements.—Finger movement is the combined action of the first and second fingers and thumb. Forearm movement is the action of the forearm sliding the hand on the nails of the third and fourth finger. Combined movement is that which is most used in business penmanship. It is a union of the forearm with the finger movement, and possesses great advantage over the other movements in the greater rapidity and ease with which it is employed. Whole-arm movement is the action of the whole arm from the shoulder with the elbow slightly raised and the hand sliding on the nails of the third and fourth fingers, and is used with facility in striking capital letters and in off-hand flourishing.

7. Practice.—In learning to write there are three essential things. The first is PRACTICE; the second is PRACTICE; the third is PRACTICE; and the student who carries out these three things will master an excellent handwriting. The old rule that "practice makes perfect" is doubly true in learning to write, and is the only principle that will successfully develop good penmanship.

8. Careless
rather to retard
a copy has been
than a benefit
ward. When
thing and be
purpose by ev
accomplish the
study combine
9. Written
copies, criticism
thus picking out
the eye as well
faults can never
study should be
try to mend.
10. Letter
as many copies
habit of correction
possible. It must
as excellent
penmanship.
following principles
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arms of letter
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MAN.

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8. Careless Scribbling.—Careless scribbling tends rather to retard than to improve the writing. Each time a copy has been carelessly repeated it is an injury rather than a benefit; a going backward instead of going forward. When practicing every stroke should mean something and be an effort to improve. Practicing with a purpose by everlastingly keeping at it will master and accomplish the high ideal. Writing is the result of study combined with practice.

9. Written Copies.—After having once written the copies, criticise your efforts before the next trial. By thus picking out your faults or errors you are cultivating the eye as well as the hand. Remember that unknown faults can never be avoided or corrected, and your first study should be to discover errors and faults and then try to mend.

10. Letter Writing.—While learning to write pick up as many correspondents as you can. Cultivate the habit of corresponding with your friends as much as possible. It makes a pleasant source of entertainment as well as excellent practice for the improvement of your penmanship. But be sure, however, and carry out the following principles: After writing a letter once, look over carefully, detect the errors in composition and spelling, then re-write it again and notice the imperfect forms of letters and words, and then re-write it again. Be that is willing to take this rule to himself and faith-

fully carry it out in all his correspondence, will become a good penman.

11. Writing Not a Special Gift.—It is often said that writing is a special gift, and only the few can become good penmen. This idea is not only fallacious but exceedingly pernicious, as it tends to discourage many pupils who write badly by leading them to believe that it is impossible for them to become good writers. There is scarcely a good penman to-day who is prominent before the people in the perfection of his art, who cannot show penmanship of his youth as poor as the poorest. Practice gives grace; correct form and construction of writing must be learned by study and practice, and the hand that is stiff will become limber and pliable, and the eye that is uncultivated will soon detect the slightest errors or deviations, and soon, unconsciously as it were, an easy flowing style of penmanship will have been mastered.

12. How to Practice.—There are various movement exercises that are a help in limbering up a stiff and awkward arm and hand. We have given some in the following pages, but it is a good practice to take a single letter, study its different styles and practice it until improvement is evident. Exercises made of small letters and joining them together in a running exercise is an excellent practice.

13. The Safe Rule.—Everlastingly keep at it.





BY THE TRACING PROCESS.

THE TRACING PROCESS.

INSTRUCTIONS FOR OUTLINING PICTURES AND LETTERS FOR PEN DRAWING.

1. Tracing.—The Tracing Process has long been known to some of the profession of penmanship, but it has been kept a sort of a secret. Many penmen have paid \$5.00 for the secret; some as high as \$20.00. It is the quickest and best known way to make a fac-simile copy for pen work or pen drawing. It is simple, and a child can make an exact copy of any picture just as well as an older person.

2. Material.—Go to some druggist and ask him for a sheet or two of oiled tracing paper; if he hasn't it in stock he can send and procure it for you at a small expense.

3. How to Use It.—Take a slip or sheet of transparent tracing paper and place it on the picture to be copied; trace all the outlines that you desire to reproduce with a lead pencil, and be careful to keep the tracing paper in the same position. Use plenty of weight; hold the tracing paper down so that it cannot move from the position that it was in when you began the tracing. After you have done this, turn your tracing

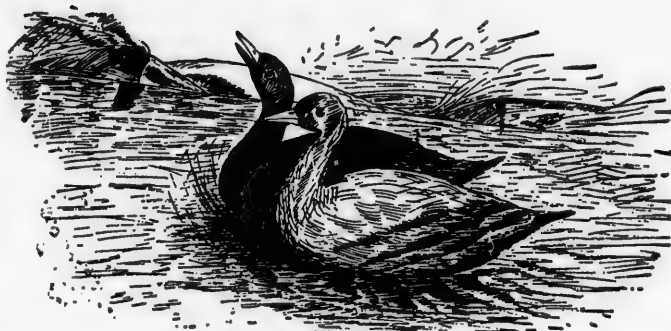
paper over. Then place your tracing paper, blacked side down, on your drawing paper, or where you wish to make your drawing, and take a fine-pointed lead pencil and trace over all the outlines and shadings of the entire picture.

Thus you print in pencilings a perfect copy of the entire picture on your drawing paper. After you have done this it is a very easy matter to finish the picture with the pen and ink by putting ink on in place of the pencilings, and shade according to the original, erasing the pencil marks



with a rubber
paper for copy
asily be cover
4. Complet
ready to be
rest of the shad
course, it is
pen and cover
tracing.





BY THE TRACING PROCESS.

with a rubber after the ink is put on. Tracing on the paper for copy only leaves the marks very light and can easily be covered with pen and ink.

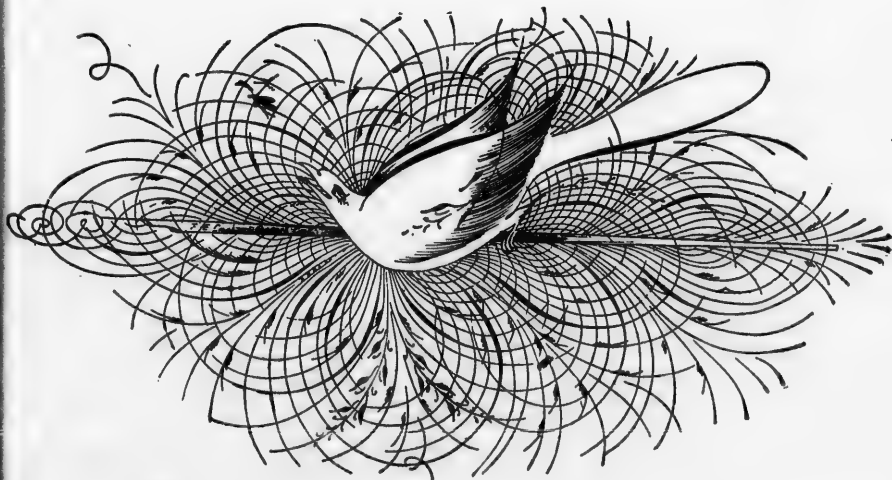
4. **Completion.**—After doing as above stated the work is ready to be completed, which is done by putting in the rest of the shading wherever it may be thought necessary; of course, it is necessary to run over the work with the pen and cover the lead pencil marks that have been left by tracing.

5. **Drawing Animals.**—The tracing process is especially adapted for tracing human figures, deer, lions and other animals; it is also excellent to get an outline of letters, but it is not so good for tracing birds. This should be done with a free, off-hand stroke, in order to look nicely, yet very good copies can be made.

6. **The Delineator** is very handy for the enlargement of pictures as for making copies same size.

DRAWING.

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or where you wish
fine-pointed lead
es and shadings of



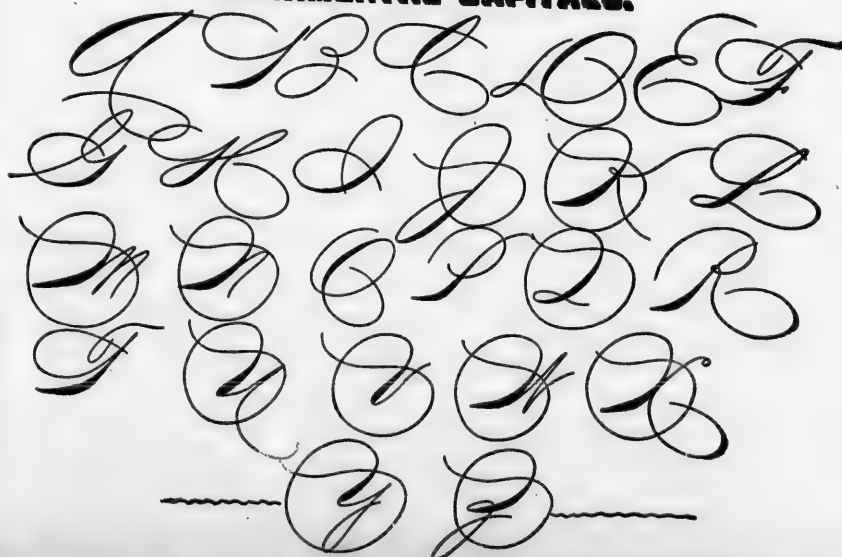


Capital Exercises.

A A A A A A B B B B B B
 C C C C C C C C C C
 D D D D D C E E E E E F F F F F
 G G G G G H H H H H
 I I I I I K K K K K L L L L L
 M M M M M N N N N N
 O O O O O P P P P P Q Q Q Q Q
 R R R R R S S S S S
 T T T T T U U U U U V V V V V
 W W W W W X X X X X
 Y Y Y Y Y Z Z Z Z Z



ORNAMENTAL CAPITALS.



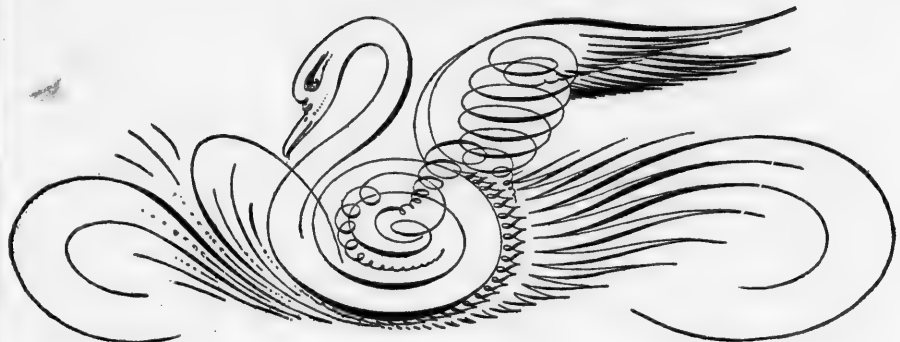
A B C D E F G H I J
 K L M N O P Q R S T
 U V W X Y Z &

A B C D E F G H I
 J K L M N O P Q
 R S T U V W X Y Z

A B C D E F G H I
 J K L M N O P Q R
 S T U V W X Y Z

a b c d e f g h i j k l m n o p
 q r s t u v w x y z & 1 2 3 4 5 6 7 8 9 0

EXERCISES IN PENMANSHIP.



- 1. Isaac Johnson Junr. In A/c with Amos Armstrong.
- 2. Tunis Turner & Jewelling To A/c paid on Rent \$200.
- 3. O'Connell & O'Connell to Cash on Consignment \$537.54.
- 4. Huddleston & Emuson to Cash paid Yr. Order H. Wood \$15.
- 5. Inventory of Saml. Goodwin's Effects Buffalo June 5th 1859.

Handwritten cursive practice letters including 'A', 'B', 'C', 'D', 'E', 'F', 'G', 'H', 'I', 'J', 'K', 'L', 'M', 'N', 'O', 'P', 'Q', 'R', 'S', 'T', 'U', 'V', 'W', 'X', 'Y', 'Z'.

nap
7890

204. *W. Williams, Manufacturer of Wooden Ware, Warren.*

205. *Paul Benson Quinton, of Xenia, Ohio. Invoice of Wheat \$450.*

206. *W. V. J. J. Yarmouth, Yds. Yacht, New York, N. York.*

207. *Due Bill
Due M. Manners, of Eighty Nine Dollars, for 'advancement'
Freight, consigned to Cundry & Goodwin & Co. Cincinnati, Ohio, for
Steamer Queen City, of the West. St. Hamilton, Clerk.*

*W. B. D. W. E. J. W. S. J. W. S. W. N. O. S. 2. B. S. S. W. W.
W. B. D. W. E. J. W. S. J. W. S. W. N. O. S. 2. B. S. S. W. W.*

*AAA Aim to improve motion.
PPP Be a thoughtful worker.
CCC Criticise and correct errors.
DDD Do your best each time.
EEE Employ mind and muscle.
FFF Freedom and form essentials.*



\$900.00

Rockland (Me.) Dec. 5, 1891.
 Received from A. W. Hinman, Nine Hundred
 Dollars in full of account to date.

W. C. Manning & Co.

\$1700.00

Thomaston (Me.) Jan. 8, 1896.
 At sight pay to O. P. Lane, or order, Seventeen
 Hundred Dollars & charge to my account.
 T. P. W. Smith. E. D. Cummings.

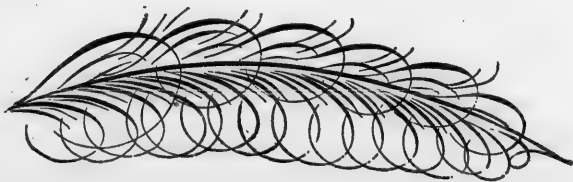


Philadelphia, March 6, 1892.
 Goodnow & Gimpf.

3127 Arch St. Philadelphia.

Please deliver to the
 bearer one dozen copies "Robinhood's
 Rambles and charge the same to
 account of

P. J. Supper.





New York, March 1, 1872.
 Petty, Crowd & Swift,
 Stock Brokers.

Please buy (or sell) for my
 account, and risk one hundred shares
 Blue Mountain Railroad stock.

This order is good until countermanded.

Investor Smith.

\$700 ¹²⁰/₁₀₀

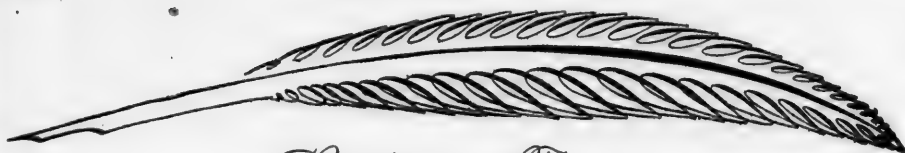
New York, January 23, 1866.
 Ninety days after date, I promise to pay
 Thomas Wright & Son, or order, Seven Hundred ⁴⁰/₁₀₀
 Dollars, value received.

John D. Williams

\$1700

New York Oct. 3, 1866.
 Six months from date, I promise to
 pay Wm. M. King Jr. or order, Seventeen Hund
 red Dollars value received.

Thomas Hunter.



Business Forms:

\$2295 ^{Tm.}

New York, October 15, 1883.

At three days sight pay to Charles Rollinson or order Twenty Two Hundred and Ninety five Dollars value received.

R. S. Peale & Co.
St. Louis Mo.

George J. Ames

Due A. H. Hinman or order on demand for value received Five Hundred Sixty Eight and ²⁵/₁₀₀ Dollars.

\$250. —

New York, January 12, 1884

Sixty days after date I promise to pay to the order of Platt R. Spencer Two Hundred and fifty Dollars value received with interest at the First National Bank.

John D. Williams

\$1750 ^{Tm.}

Chicago, September 20, 1883.

Six months after date I promise to pay Cony. F. Kelley or order One Thousand Seven Hundred and Fifty Dollars value received.

Joel H. Barlow.

Knowville, Tenn.
March 30, 1891.

D. B. Loveman & Co.,
Chattanooga, Tenn.

Gentlemen, — Please send
us at once by Southern Express the
following goods accompanied by bill:

27 yds. Manchester Prints.

46 " Whittenton Cheviot.

75 " Lancaster Gingham.

Yours truly,

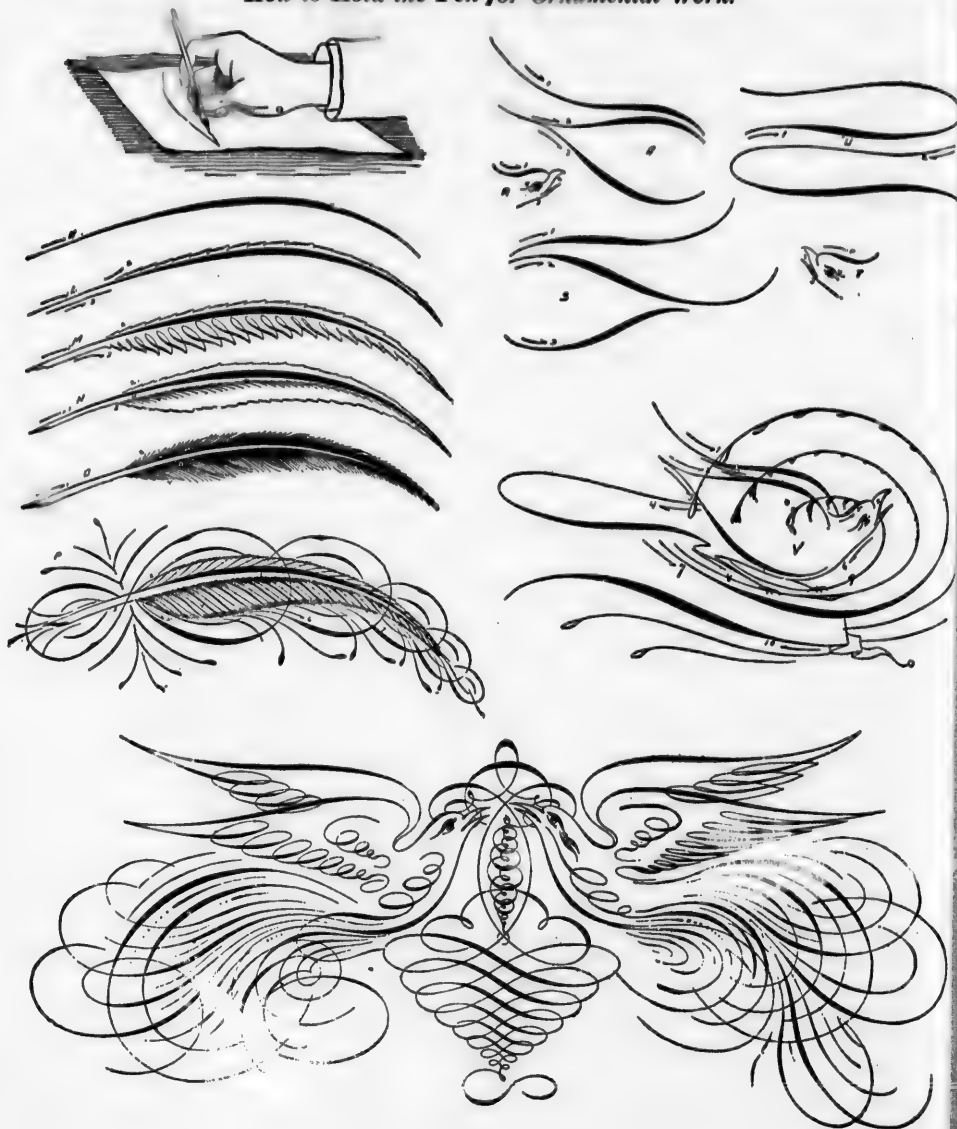
R. S. Collins & Co.

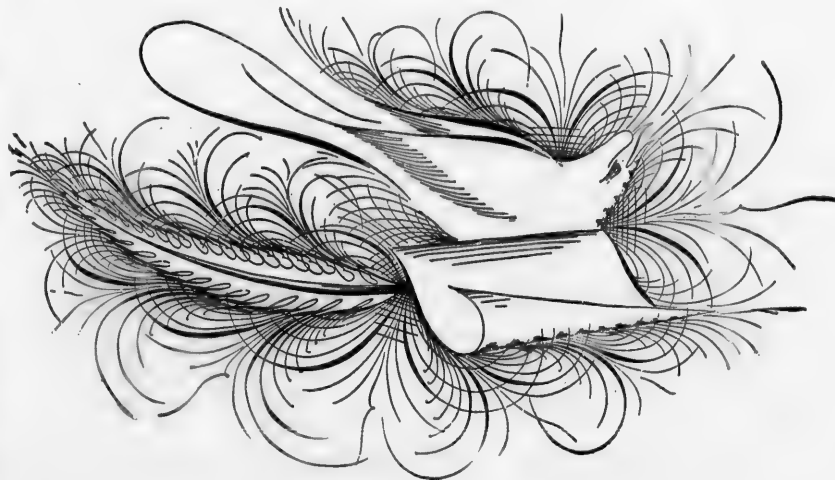
GGG Guide well the movements
HHH Heads and hands need training
III Improve each succeeding effort.
JJJ Join letters with freedom. J.
KKK Keep acquire a normal position.
LLL Learn to write well then rapidly.

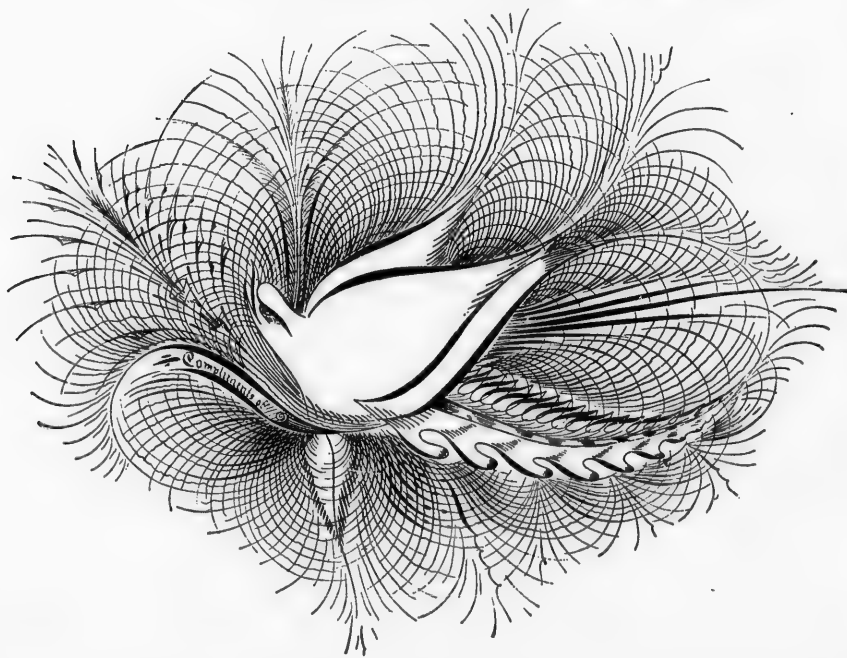


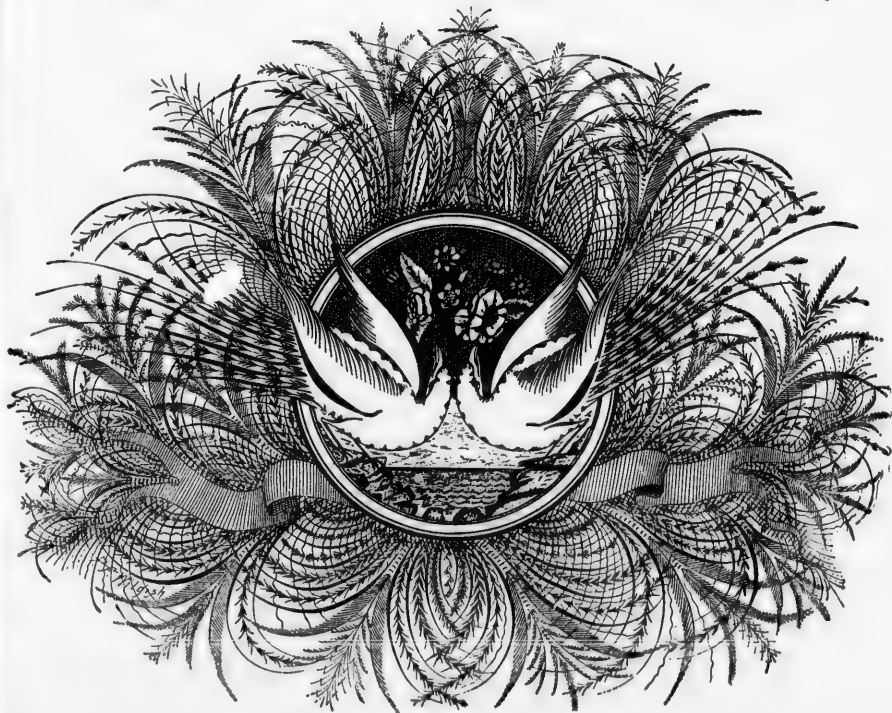
Business Writing.

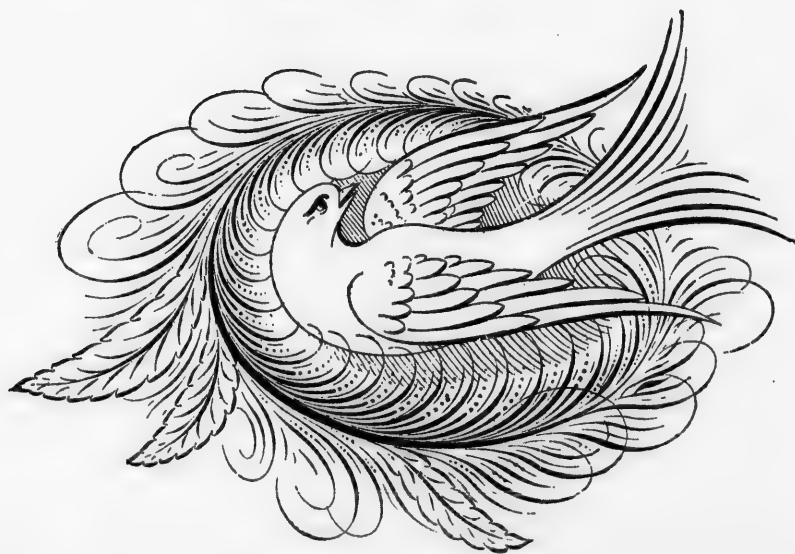
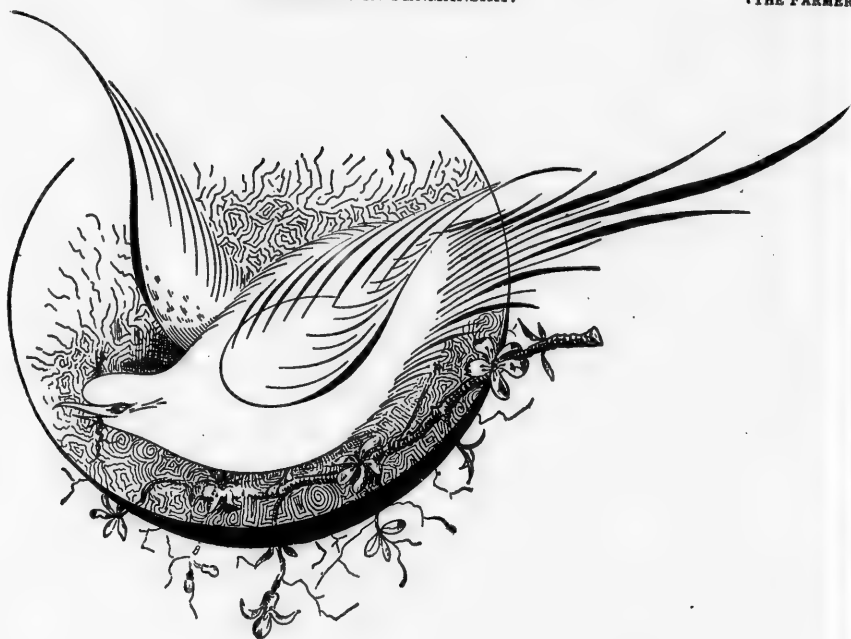
"Writing should always be adapted to the circumstances under which it is used. While mathematical exactness in spacing, height, slope, form and shade, is admirable and essential in primary copies, to give the learner proper ideas, it is not practical under all circumstances in business writing. An accountant is often required to give explanations of entries in his books, in a limited space, and in order to accomplish it must vary the size, slope and spacing of his letters accordingly. In all business writing the utmost modesty of display and simplicity of arrangement should be strictly observed."

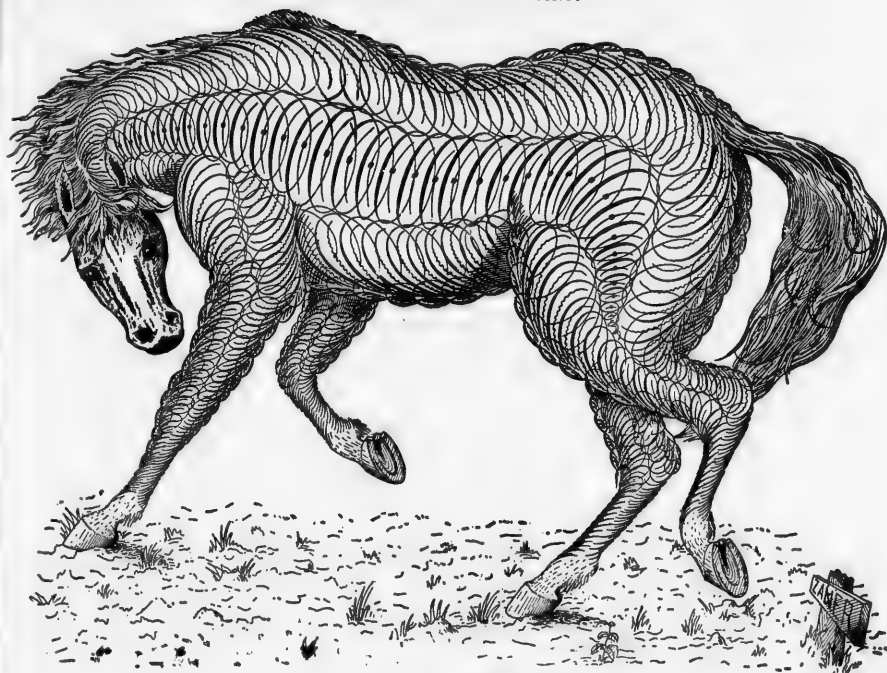
PRACTICAL LESSONS IN ORNAMENTAL PENMANSHIP.*How to Hold the Pen for Ornamental Work.*



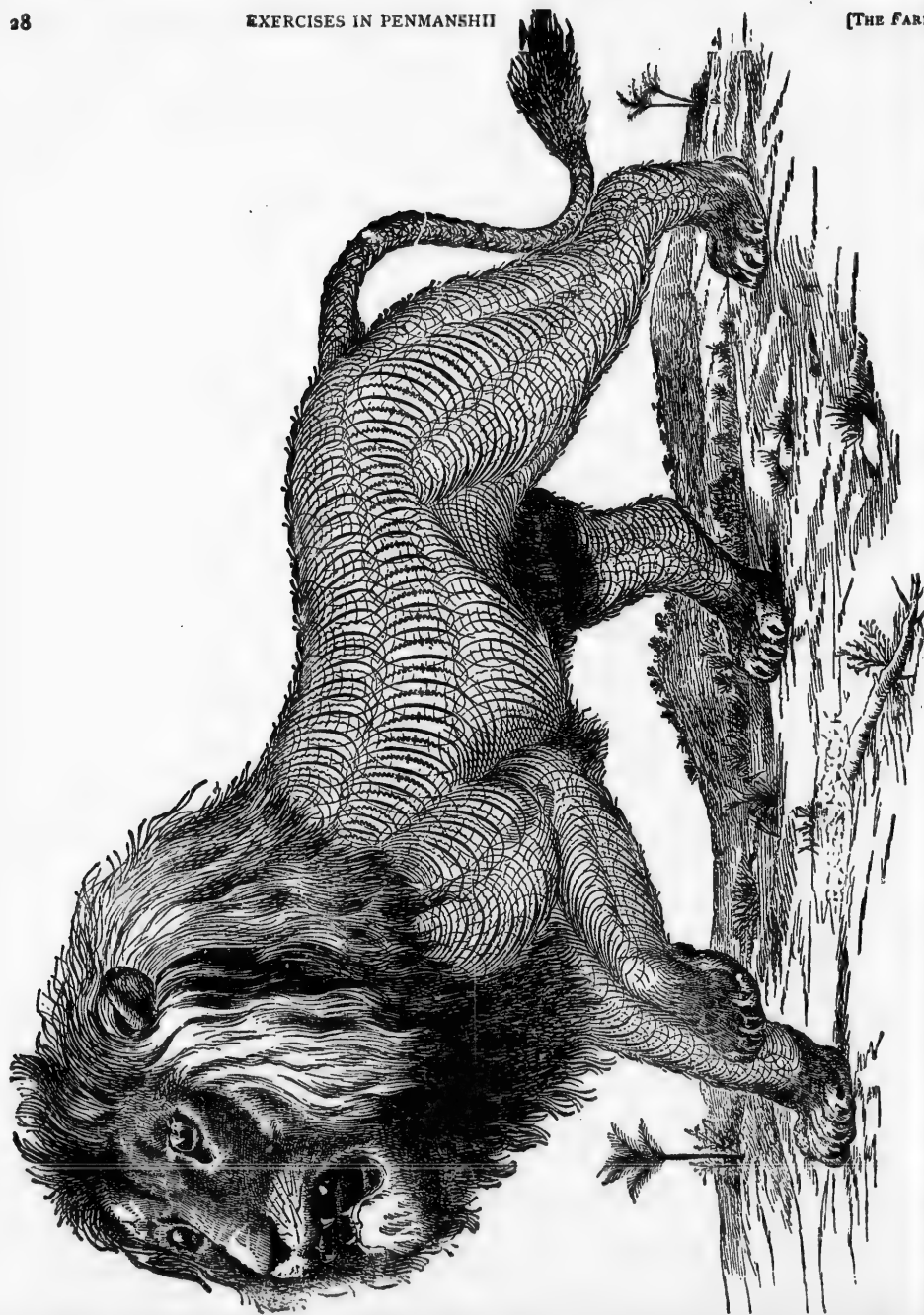








EXECUTED BY THE TRACING PROCESS.



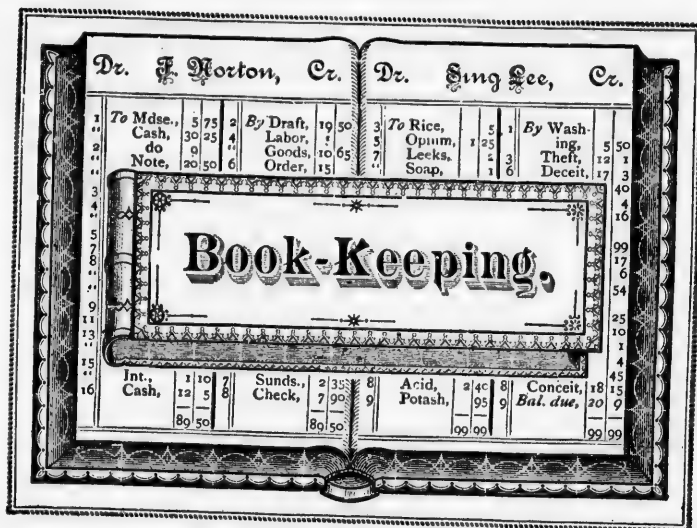
EXERCISES IN THE TRACING PROCESS.

1. Great money lost a careless method lawsuits are t lessly kept acc nually by the de business in

2. Importa most neglectfu their accounts and to other p tirely upon me for they could for the time an culty, the outg

3. Hired M record of the a neglect and a v

4. How to Write the nam dence, the date time for which are agreed upo on paper. It i of the agreeme



HOW TO KEEP BOOKS.

Great Mistakes.—It is impossible to estimate the money lost annually, directly and indirectly, through careless methods of doing business. More than half the lawsuits are the outgrowth of some neglected or carelessly kept accounts, and millions of dollars are lost annually by the people of this country, because they will not do business intelligently.

2. Important to Farmers.—As a rule farmers are the most neglectful of all classes in keeping correct record of their accounts; they trust too much to the merchants and to other parties with whom they deal, or depend entirely upon memory, and many find it an expensive way, for they could often hire a bookkeeper for an entire year for the time and money lost in settling up a single difficulty, the outgrowth of carelessness.

3. **Hired Men.**—Few farmers make any account or record of the agreement with hired men. It is a serious neglect and a very unbusiness-like way to do business.

4. **How to Write a Contract with a Hired Man.**

Write the name of the person employed, former residence, the date he begins work, the rate per month, the time for which he is hired and such other conditions as are agreed upon, either in the book for his account or on a separate paper. It is best to give the person employed a copy of the agreement as written in the account book.

5. **Personal Account.**—In dealing with a hired man debit him or charge him for the amounts paid him and for lost time, and credit him with the wages agreed upon, and when the final payment is made or settlement agreed upon, a receipt should be given in full of all demands to date.

6. **A Good Business Principle.**—When you pay a bill, always take a receipt for the amount paid and file these receipts away in a safe place. It is a good plan to paste them in an old book, then they can be referred to easily, and you will always have a degree of security about you which may save you from some lawsuit or from paying a bill the second time.

7. **Keeping Accounts with Merchants.**—If you run a credit account at any store, you should have a small pass-book in which the entries should be made by the merchant. The book should be presented for entries whenever an article is purchased, and the day and date specified and the articles correctly entered.

8. **Cash Accounts.**—It is a very simple and easy thing for a Farmer or a Mechanic to keep a correct cash account. Place on the debtor side all the cash received. On the credit side all the cash paid out. This principle of keeping accounts is often one of the safeguards of the family, and many persons of fortune to-day can



JAY GOULD.

trace their success to their keeping a strict cash account in their first struggles, and knowing where every dollar came from and what became of it. People in order to be successful in business must do business in a business-like manner. Study carefully the "Safe Methods of Business."

9. **Washington** said that agriculture was "the most healthful, the most useful and the most noble employment of man." But this is only true when the soil is suitably cultivated, the seed-time and harvest carefully observed, and when intelligence and energy are manifested in every branch of the work.

10. **The Sources of Wealth** are chiefly agriculture, manufacture, mining and trade.

11. **The Means of Wealth** are the outlays and returns made with intelligence, industry and skilled labor.

12. **Agriculture** is the cultivation of the ground. It includes grazing and the management of live stock. The soil, climate and market will generally indicate the kind of products which will be most profitable. The farm produces chiefly wheat, corn, rye, butter, beef, pork, mutton and poultry.

13. **Manufacture** changes the raw material into the forms suitable for use; for example, the flour mill grinds wheat into flour and corn into meal; the shoe factory makes leather into shoes; the cotton factory spins cotton into thread and weaves the thread into cloth, and the starch factory makes starch from corn.



1893.

Sept.

"

"

"

1894.

July

Aug.

"

"

"

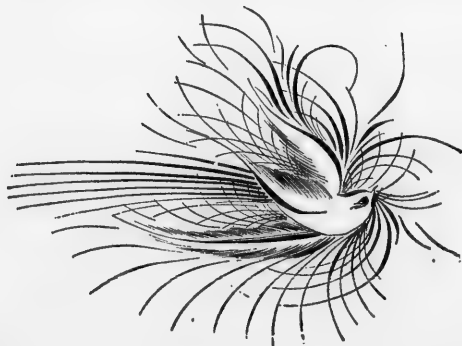
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GAIN AND LOSS ACCOUNT.

Wheatfield, 10 Acres. Dr. Cr.

1893.								
Sept.	9	To 15 days Plowing, @ \$3.00	\$45	00				
"	11	" 17 1/2 bu. Seed " 1.50	26	25				
"	14	" 1 1/2 days Sowing " 1.00	1	50				
"	15	" Harrowing, Rolling, etc.	18	00				
1894.								
July	25	" Harvesting	55	00				
Aug.	2	" Marketing	15	00				
"	"	By 200 bu. Wheat @ 1.45				290	00	
"	"	" Straw				10	00	
"	30	To Use of Land	70	00				
"	"	By 15 bu. Wheat @ 1.45				21	75	
"	"	" 35 bu. unsold @ 1.45				50	75	
		To Profit?	144	75				
			\$372	50		372	50	



Account with a Farm Laborer.

Dr. Cr.

1892.							
Jan.	8	John Ryan, of Newton, Iowa, begins work this day @ \$18.00 a month. Term of service, one year from date.					
Feb.	10	To Cash paid him on %	\$ 15	00			
Mar.	13	" Loss of time March 3d to 13th, 10 days,	6	00			
May	4	" Cash paid him on %	30	00			
Aug.	10	" Loss of time Aug. 4th to 9th, 5 days,	3	00			
Sept.	25	" Cash paid him on %	35	00			
Dec.	8	Agreement is made for another year, beginning Jan. 8th, 1893, @ \$20.00 a month					
1893.	Jan.	8	By 12 months work @ \$18.00,			216	00
"	20	To Cash, balance on old % due Jan. 8th,	137	00			
			216	00		216	00
Feb.	7	To Cash paid on new %	10	00			
Mar.	1	" 1 Pair Boots bought for him	4	00			
"	30	" Loss of time Mar. 27th to Mar. 29th,	2	00			
Apr.	15	" Cash paid on %	15	00			
May	10	" 1 Suit of Clothes	25	00			
June	20	" Loss of time June 14th to 19th	4	00			
July	25	" Cash on %	5	00			
Aug.	10	" Cash on %	10	00			
Sept.	18	" 1 pair Gloves	2	00			
Dec.	21	" 1 pair Shoes and Hat	6	00			
1894.	Jan.	8	By 12 months work @ \$20.00			240	00
"	"	To Cash paid, balance of %	157	00			
			\$240	00		\$240	00

Account of a Cornfield, 10 Acres.

Dr. Kr.

		1893.			
		Apr.	20	To Drawing Manure, 5 days @ \$2.50 ..	\$ 12 50
		"	30	" Spreading " 5 " @ 1.00 ..	5 00
		May	8	" Plowing, . . . 10 " @ 2.50 ..	25 00
00		"	10	" Harrowing, . . . 3 " @ 2.50 ..	7 50
00		"	11	" Fertilizing . . . 3½" @ 1.50 ..	3 75
00		"	"	" " 4½ bu. @ 1.00 ..	1 50
00		"	12	" Planting, . . . 10 days @ 1.00 ..	10 00
00		"	30	" Cultivating, . . 3 " @ 1.50 ..	4 50
		June	3	" First Hoeing, 10 " @ 1.00 ..	10 00
		"	28	" Cultivating Corn, 5 " @ 1.50 ..	7 50
	216 00	"	30	" Second Hoeing, 12 " @ 1.00 ..	12 00
00		Sept.	15	" Cutting, per Contract, . . .	20 00
00	216 00	Oct	30	" Husking and Shelling, per Contract,	40 00
		Nov.	20	By Corn Reserved for use, 35 bu. @ 52¢ ..	
00		"	28	" 650 bu. Sold @ 54½ ¢.	18 20
00		"	"	To Expense Marketing 650 bu. @ 2½ ¢ ..	354 25
00		Dec.	1	By 200 bu. poor Corn @ 20¢ ..	
00		"	8	" Stalks	40 00
00		"	20	To Manure	25 00
00		"	"	" Use of Land	50 00
00		"	"	" Profit	40 00
00					171 95
00					\$437 45
00					437 45
00	240 00				
00	\$240 00				

DWIGHT BAKER'S
 ACCOUNT WITH

Merchant.
Dr.
Cr.

1893.									
Mar.	3	By 13 yds. Cloth @ \$2.50						\$ 32	50
"	7	To 15 bu. Oats @ 75¢			\$ 11	25			
"	8	By 8 yds. Cloth @ \$3.00						24	00
"	11	To 40 bu. Potatoes @ 80¢ \$32.17 bu. Wheat @ \$2.34			66	00			
"	26	By 40 yds. Muslin @ 19¢						7	60
"	31	" Balance due per Bill Rendered						13	15
					77	25		77	25
Apr.	1	To Balance			13	15			
"	2	" 15 bu. Corn @ 80¢			12	00			
"	8	By 12 yds. Cambric @ 55¢						6	60
"	14	" 5 " Linen @ \$1.25						6	25
"	18	To 10 bu. Wheat @ \$1.40			14	00			
"	21	By 12 Shkps. @ 33¢						3	96
"	30	" Balance due per Bill Rendered						22	34
					39	15		39	15
May	1	To Balance			22	34			
"	"	" 4 bbls. Turnips @ \$1.50			6	00			
"	3	By Cash, per Bill rendered Apr. 30,						22	34
"	4	To 3 tons Hay @ \$25.00			75	00			
"	9	By 6 prs. Gloves @ 56¢ \$3.36, 16 yds. Ribbon @ 60¢ \$9.60						12	96
"	17	To 185 lbs. Beef @ 9¢			16	65			
"	26	By 36 yds. Muslin @ 20¢						7	20
"	31	" Balance due per Bill Rendered						77	49
					119	99		119	99
June	1	To Balance			77	49			
"	5	By Cash in full of ac.						77	49

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Home Lessons in Book-Keeping.

❖ Practical and Complete. ❖

A Complete Education.—This is a practical age, and no young man's or young woman's education is complete without some knowledge of book-keeping and commercial accounts.

Our advice, therefore, is to every young man whether he expects to engage in active business life or not, that he thoroughly master the subject of book-keeping and the science of accounts.

Farmer and Mechanic.—The farmer and mechanic have found out, by dear experience, that it pays to keep a correct record of their business transactions instead of

trusting entirely to the parties with whom they deal. Every man should know his own account and have a correct record of it.

A Great Necessity.—What the public wants is a plain simple style of book-keeping, that will require the least amount of labor and yet explain in full, the transactions with others. The rules and forms which we give in the following will be not only practical and helpful to all, but can be safely relied upon as a brief, systematic, comprehensive and correct form.

SINGLE ENTRY BOOK-KEEPING.

Single Entry Book-keeping is the recording of business transactions with persons only, and the books used in single entry are the Day Book and the Ledger also a Cash Book and Bill Book may be used as a part of a set when deemed necessary.

A Single Entry Day Book is the book known in law as the Book of Original Entry and should contain everything that has been done or in other words a complete history of the business,

A Single Entry Ledger is a Book of Accounts with persons only. A Ledger proper represents a classification of accounts.

A Cash Book, when kept in single entry Book-keeping, should contain the items of all Cash received and all Cash paid out.

The Form of the Day Book, is Simple. First give the names of the persons to be debited or credited, whichever the case may be, by placing the words "Debtor"

or "Creditor," (abbreviated **Dr. and Cr.**) after the name. If a man purchases anything and does not pay for it, he is a debtor and must be debited; and when he pays for the same, he is a creditor and must be credited. In looking over the following set, the student will easily see when the term "Debit" or "Credit" is applied.

Practical Rules for Commencing Book-keeping. First, credit the proprietor with the resources or what he puts into the business. Second, debit the proprietor

with the debts he owes or assumes. Third, personal accounts with other persons put into the business, debit the person with the full amount he owes, and credit the proprietor with the amount of the indebtedness. Fourth, in the transaction of business always debit the person with what he owes, and credit a person when he pays his account. When loaning a person money, he becomes a debtor and is so entered in the book, and when he pays his account, he is credited and is so entered in the book.

ARRANGING ENTRIES IN DAY-BOOK FOR POSTING.

Debit and Credit Rule for Personal Accounts.

Debit the person when they owe you, or you pay them an account. Credit the person when you owe them, or they pay you an account.

Buying and Selling on Account.—If you sell on account, debit the person and describe the property sold. If you buy on account, credit the person from whom you purchase.

Cash or Note.—If you buy or sell for cash, make no Day Book entry, but enter the Cash in the Cash Book; if for note, enter in the Bill Book.

Cash in Part Payment.—If you sell property and receive cash in part payment, debit the person for the full amount sold, and credit him for the cash received, and enter the cash in the Cash Book on the Dr. side. If you buy property and pay part cash, credit the person for the full amount and debit him for the cash paid, and enter the cash in the Cash Book on the credit side.

Note in Part Payment.—If you buy property and give your note in part payment, credit the person for the full amount, debit him for the note and enter the note in the Bills Payable Book. If you sell property and receive in part payment a note, debit the person for the full amount sold, and give him credit for the note, and enter it in the Bills Receivable Book.

Cash on Account.—If you receive cash of a person on account, give him credit and enter the cash in the Cash Book, on the Dr. side; or if you pay cash on account, debit the person and enter on the Cr. side of the Cash Book.

Bank Account.—An account with a bank is considered a personal account. Debit the Bank with the amount you deposit, and credit the Bank when you give a check upon it. An excess of debit will show balance

on deposit; an excess of credit will show amount overdrawn.

Drawing a Draft.—The drawer of a draft should credit the drawee when he draws a draft upon him. The drawee of a draft should debit the drawer when the draft is paid on presentation or accepted for future payment.

Cash Entries.—Cash invested in the business, and all cash and checks received, should be entered on the debit side of the Cash Book, and all cash paid out on the credit side.

Balance on Hand.—The difference between the debit and the credit side of the Cash Book should equal the balance on hand, as shown by actual count of money on hand. There can never be an excess on the credit side of the Cash Book without error, as we can never pay more than is secured. The Cash Book is closed by entering on the credit side in red ink the excess of the greater with the remark "Balance on Hand." Single rule both debit and credit columns, directly opposite, foot the columns and double rule, then bring the red ink entry below in black ink on the debit side, as a balance on hand with which to start the next day.

The Sales Book contains a record of all the sales of merchandise and may be used as a principal book from which to post personal accounts to the Ledger, instead of entering the same transactions in the Day Book.

An Invoice Book should contain a record of all merchandise received, which is usually done by posting all the invoice in a blank invoice book and indexing them for reference. The transactions on account may be posted directly from this book to the Ledger, the same as the transactions in the Sales Book. Some however prefer to enter them in the Day Book before posting.

The Sales Book, Invoice Book, Bill Books, and Cash Book are the same in Double as in Single Entry.

DOUBLE ENTRY BOOK-KEEPING.

Double Entry Book-keeping is the process of recording business transactions, so that each entry shall have a debit and a credit of equal amounts. Accounts are kept with both persons and things.

The Principal Books are, the Day Book, Cash Book, Journal, and Ledger.

The Day Book is the book in which the entries are first recorded, with the date and in the order of their occurrence. It should give a complete history of the transactions.

The Journal is the book in which entries to be made in the Ledger are arranged.

The Ledger is the book of accounts.

Rules for Opening a Stock Set of Books.—Debit the resources and credit the liabilities, then debit or credit stock for the difference. If the resources be larger, credit the stock. If the liabilities be larger, debit the stock. The proprietor's name may be used instead of stock.

At Commencing, a credit of stock shows the investment, and a debit insolvency; after the books have been opened, the credit stock shows additional investment or gain, and the debit amount withdrawn or loss.

When Two or More Persons are doing business as partners, we do not use the stock account, but open a separate account with each of the partners, using their individual names.

A Partnership Set is opened the same as a stock set, only that you credit or debit each partner instead of stock.

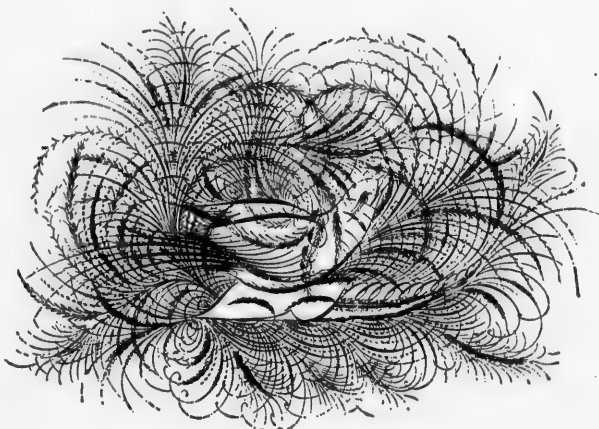
The Debit Side of a partner's account contains debts assumed, capital withdrawn, and final losses, the same as the debit side of the stock account.

The Credit Side of a partner's account contains all investments, whether original or subsequent, and final gains, the same as the credit side of the Stock account.

In a Partnership Business the Loss and Gain account is closed to the Partner's account, each name mentioned in Loss and Gain, dividing the gain as per agreement.

Rule for Journalizing.—Debit what you receive, and credit what you part with; or debit what costs value, and credit what produces value.

The Debit and Credit of the Journal should be equal. The Journal should be footed at the bottom of the page.



THIS SET IS WRITTEN UP, SO EVERY ONE CAN STUDY THE FORMS OF ENTRY FOR EVERY ITEM.

TRANSACTIONS IN SINGLE ENTRY

Written Up.

Jan. 1, 1894.—J. L. Nichols and F. A. Lueben have engaged in a General Merchandise business. J. L. Nichols invests Cash, \$4000; Merchandise, \$1750; Notes as follows: One in favor of J. L. N., signed by D. B. King, and endorsed by A. L. Willard, dated Dec. 1, 1893, at 60 days, for \$500; and one for \$700, an accepted Draft, drawn by L. S. Bliss on H. B. Hamilton, Dec. 11, 1893, at 90 days' sight, and accepted Dec. 13, '93. Personal Accounts, as follows: Jacob Jones, \$500; Albert Lee, \$750; Arthur Cromwell, \$900. F. A. Lueben invests, Cash, \$500; Real Estate, \$5000.

2.—Sold John Smith, on $\frac{1}{6}$, 2 doz. Gents' Silk Handkerchiefs, 24, at 40¢; 6 pcs. Amoskeag Sheeting, 130 yds., at 10¢; 4 do. Mixed Cassimeres, 100 yds., at 50¢. — Received Cash of Jacob Jones in full of $\frac{1}{6}$, \$500. — Paid Cash for Stationery and Printing, \$30.

3.—Sold A. Thompson on his Note at 30 days, endorsed by Wm. Miller, 1 case Child's Metallic Tip Shoes, 60 prs., at 50¢; 2 do. Child's Heel Gaiters, 96 prs., at 63¢; 3 pcs. English Tweed, 27 yds., at \$1.

4.—Sold John Bird, on $\frac{1}{6}$, 4 cases Men's Congress Gaiters, 96 prs., at \$1.50; 2 do. Gent's Canada Ties, 24 prs., at \$1.75. — Sold Peter Carter, for Cash, 1 piece Striped Velvet, 10 yds., at \$5; 6 do. Paper Cambrics, 72 yds., at 8¢; 10 do. Lynn Cotton, 300 yds., at 11¢.

5.—Paid Cash for Petty Expenses, \$3.75. — Sold Wm. H. Albert on his Note at 60 days, 3 pcs. Lancaster Gingham, 125 yds., at 10¢; 6 do. Scotch Plaid, 240 yds., at 13¢. — Bought of Harvey, Pierce & Co., invoice of Merchandise amounting to \$5000; paid Cash \$2500; Note at 6 months, \$2500.

6.—Received Cash on $\frac{1}{6}$ of Arthur Cromwell, \$500. — Sold Wm. Peters for Cash, 1 case Misses' Cork Sole Shoes, 60 prs., at 75¢; 1 do. Gent's Paris Gaiters, 24 prs., at \$1.75. — Received Cash for Petty Sales, \$25.50.

8.—Sold Jacob Hosig on $\frac{1}{6}$, 3 doz. Elastic Hoop Skirts, 36, at \$2.50; 1 doz. Empress do., 12, at \$2; 3 pcs. Check Marseilles, 30 yds., at 50¢. — Sold Albert Dickson, for Cash, 3 pcs. English Tweed, 27 yds., at \$1; 6 do. Corduroy, 250 yds., at 75¢. — Received Cash of John Bird, on $\frac{1}{6}$, \$50.

9.—Paid F. A. Lueben, Cash on Private $\frac{1}{6}$, \$100. — Paid Cash for Petty Expenses, \$7.50.

10.—Sold Katie Burke, for Cash, 3 cases Ladies' Extra Balmoral Boots, 144 prs., at \$2; 2 cases Ladies' Opera Gaiters, 48, at \$1.75.

12.—Paid J. L. Nichols, Cash on private $\frac{1}{6}$, \$75. — Sold Wm. Sheller, on $\frac{1}{6}$, 6 pcs. Merrimack Prints, 210 yds., at 9¢; 5 do. Union Prints, 150 yds., at 8¢; 7 do. Lancaster Prints, 244 yds., at 8½¢; 4 do. Orange Prints, 120 yds., at 8½¢. — Received Cash for Petty Sales, \$10.38.

13.—Received Cash of Arthur Cromwell in full of $\frac{1}{6}$, \$400. — Sold H. Krueger on $\frac{1}{6}$, 3 pcs. Lancaster Gingham, 125 yds., at 10¢; 2 do. French Merino, 40 yds., at 50¢; 5 do. Bar. Muslin, 90 yds., at 14¢.

15.—Sold Peter Cooper for Cash, 6 pcs. Fancy Linens, 36 yds., at \$2; 5 do. English Prints, 200 yds., at 20¢; 6 do. Parametta (Maroon), 300 yds., at 75¢. — Paid Cash for Repairing Store, \$75.

16.—Received Cash of Jacob Hosig, in full of $\frac{1}{6}$, \$129. — Sold Jacob Jones, on $\frac{1}{6}$, 5 pcs. Amoskeag Stripes, 120 yds., at 12½¢; 4 do. Pepperell Sheeting, 160 yds., at 10¢; 4 do. Auburn Sheeting, 120 yds., at 15¢.

17.—Received Cash in full of Albert Lee's $\frac{1}{6}$, \$750. — Sold A. N. Walter on his Note at 60 days, 4 cases Men's Thick Boots, 48 prs., at \$1.25; 2 do. Double-Soled Boots, 24 prs., at \$1.50.

20.—Sold John Simon, for Cash, 2 cases Women's Walking Shoes, 120 prs., at 50¢; 2 do. Jenny Lind Gaiters, 24 prs., at \$1.15; 2 do. Opera Gaiters, 24 prs., at \$1.75. — Paid Clerk hire in Cash, \$65.

22.—Received Cash of Jacob Jones, in full of $\frac{1}{6}$, \$49.

	<u>Inventory:</u>	
Merchandise on hand	- - - -	\$4500.

1894
Jan 1

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DAY BOOK.

J. L. Nichols
D. B. King,
Accepted Draft,
g. Personal
invests, Cash,
ng, 130 yds.,
Paid Cash
Tip Shoes,
Canada Ties,
er Cambrics,
Lancaster
Co., invoice
Cork Sole
Sales, \$25.50.
at \$2; 3 pcs.
yds., at \$1;
Ladies'
Prints, 210
do. Orange
Lancaster
t 14¢.
yds., at 20¢;
skeag Stripes,
at 15¢.
days, 4 cases
Lind Gaiters,

1894				
Jan 2	1	J. L. Nichols, Cr.		
		By Investment as follows:		
		Cash as per Cash Book	\$4000	
		Merchandise as per Inventory	1750	
		Notes as per Bill Book	1200	
		Personal Accounts:		
		Jacob Jones	500	
		Albert Lee	750	
		Arthur Cromwell	900	9100
"	"	F. A. Lueben, Cr.		
		By Investment as follows:		
		Cash	500	
		Real Estate	5000	5500
"	"	Jacob Jones, Dr.		
		To Balance, favor of J. L. Nichols,		500
"	"	Albert Lee, Dr.		
		To Balance, favor of J. L. Nichols,		750
"	"	Arthur Cromwell, Dr.		
		To Balance, favor of J. L. Nichols,		900
"	2	John Smith, Dr.		
		To 2 doz. Gent's Silk Hdkfs, 24, @ 40¢, . . .	9.60	
		" 6 pcs. Amoskeag Sheeting, 130 yds. @ 10¢, . .	13.00	
		" 4 " Mixed Cassimeres, 100 " @ 50¢, . . .	50.00	72 60

DAY BOOK.

1894.				
Jan.	2	Jacob Jones, Cr. D		
		By Cash in full of %	500	
"	4	John Bird, Dr.		
		To 4 cases Men's Congress Suits, 96 prs. @ 1.50, \$144.00		
		" 2 " Gents' Canada Ties, 24 " @ 1.75, <u>42.00</u>	186	
"	6	Arthur Cramwell, Cr. D		
		By Cash on %	500	
"	8	Jacob Hosig, Dr.		
		To 3 doz. Elastic Neck Shirts, 36, @ 2.50, - - \$90.00		
		" 1 " Emprass " " 12, @ 2.00, - 24.00		
		" 3 prs. Check Marseilles, 30 yds. @ 50¢, - - <u>15.00</u>	129	
"	"	John Bird, Cr. D		
		By Cash on %	50	
"	9	F. A. Luchen, Dr. D		
		To Cash for private use	100	
"	12	J. L. Nichols, Dr. L		
		To Cash for private use	75	
"	"	Wm. Sheller, Dr.		
		To 6 prs. Merrimack Prints, 210 yds. @ 9¢, - - \$18.90		
		" 5 " Union " 150 " @ 8¢, - - 12.00		
		" 7 " Lancaster " 344 " @ 8½¢, - 20.74		
		" 4 " Orange " 120 " @ 8½¢, - <u>10.20</u>	61	

DAY BOOK.

1894.				
Jan	13	Arthur Cromwell, Crd		
		By Cash in full of %	400	
"	"	H. Koenigs, Dr		
		To 3 pcs. Lancaster Singham, 125 yds. @ 10¢, \$12.50		
		" 2 " French Merino, 40 " @ 50¢, 20.00		
		" 5 " Fair Mustin, 90 " @ 14¢, 12.60	45	10
"	16	Jacob Hasing, Cr		
		By Cash in full of %	129	
"	"	Jacob Jones, Dr		
		To 3 pcs. Amoskeag Stripes, 120 yds. @ 12½¢, \$15.00		
		" 4 " Pepperell Sheeting, 160 " @ 10¢, 16.00		
		" 4 " Auburn " 120 " @ 15¢, 18.00	49	
"	17	Albert Lee, Cr		
		By Cash in full of %	750	
"	22	Jacob Jones, Crd		
		By Cash in full of %	49	

CASH BOOK.

		RECEIVED.		PAID.	
1894					
Jan.	1	Amount invested by J. L. Nichols	\$4000		
"	"	" " " F. A. Luchen	500		
"	2	Received of Jacob Jones in full of %	500		
"	"	Paid for Stationery and Printing			30
"	4	Received of Peter Carter for Mds.	88	6	
"	5	Paid for Petty Expenses			3 75
"	"	" Harvey Pierce & Co, on Mds.			2500
"	6	Received of Wm. Peters for Mds.	87		
"	"	" " Arthur Cromwell on %	500		
"	"	" for Petty Sales	25	50	
"	8	" of Albert Dickson for Mds.	214	50	
"	"	" " John Bird on %	50		
"	9	Paid F. A. Luchen for private use			100
"	"	" for Petty Expenses			7 50
"	10	Received of Katie Burke for Mds.	372		
"	12	Paid J. L. Nichols for private use			75
"	"	Received for Petty Sales	10	38	
"	13	" of Arthur Cromwell, full of %	400		
"	15	" Peter Cooper for Mds.	337		
"	"	Paid for Repairing Store			75
"	16	Received of Jacob Hasing, full of %	129		
"	17	" " Albert Lee, " " "	750		
"	20	" " John Simon for Mds.	129	60	
"	"	Paid Clerk Hire			65
"	22	Received of Jacob Jones, full of %	49		
		Balance on hand			5286 49
			\$8142	74	8142 74

BILL BOOK.
NOTES OR BILLS RECEIVED

PAID.

5286	49	65	75	75	100	2500	375	30
8142	74							

BILL BOOK. NOTES OR BILLS RECEIVABLE.

No.	WHEN RECEIVED	FOR WHAT	DRAWER OR ENDORSER.	DRAWEE OR MAKER.	DATE.	TERM.	WHEN DUE.	AMOUNT.	WHEN AND HOW DISPOSED OF.
1	1894	Investment	A. L. Willard	D. B. King	1893.		1894.		
2	Jan. 1	J. L. K.	L. S. Bliss	D. B. Hamilton	Dec. 160 days		Feb. 2	\$500.00	
3	" 3	Wds.	Wm. Miller	A. Thompson	" 14 90 "		Mar. 16	700.00	
4	" 5	Wds.		Wm. A. Albert	1894.		Feb. 5	117.48	
5	" 17	Wds.		A. N. Walker	Jan. 3 30 "		Mar. 9	43.70	
					" 5 60 "		" 21	96.00	

NOTES OR BILLS PAYABLE.

No.	WHEN ISSUED.	FOR WHAT.	DRAWER OR ENDORSER.	DRAWEE OR MAKER.	DATE.	TERM.	WHEN DUE.	AMOUNT.	WHEN AND HOW DISPOSED OF.
1	1894.	Wds.		Nichols & Jackson	1894.		1894.		
	Jan. 5				Jan. 5	6 mo.	July 5	2500.00	

LEDGER.

Dr.		J. L. Nichols.				Cr.	
1894.					1894.		
Jan.	12	To Cash	75		Jan.	1	By Investment
"	31	" Net Investment	9025				9100
			9100				9100

		F. A. Lueben.					
1894.					1894.		
Jan.	9	To Cash	100		Jan.	1	By Investment
"	31	" Net Investment	5400				5500
			5500				5500

		Jacob Jones.					
1894.					1894.		
Jan.	1	To Balance	500		Jan.	2	By Cash
"	16	" Mchse.	49		"	22	" "
			549				549

		Albert Lee.					
1894.					1894.		
Jan.	1	To Balance	750		Jan.	17	By Cash
							750

LEDGER.

Arthur Cromwell.

<i>C.</i>	<i>D.</i>
	<i>Arthur Cromwell.</i>
<i>t 9100</i>	<i>1894. Jan. 1 To Balance 900</i>
<i>9100</i>	<i>" 6 By Cash 500</i>
	<i>" 13 " " 400</i>
	<i>900</i>

John Smith.

5500	1894 Jan. 2	T. Weber	72	60	1894 Jan. 31	By Balance	72	60
5500								

John Bird.

500	1894	Jan.	4	To Wmbo.	186	1894	Jan.	8	By Cash	50
49							"	31	" Balance	136
549					186					186

Jacob Hosig.

750	1894 Jan. 8	To Wm. W. W.	129	1894 Jan. 16	By Cash	129
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LEDGER.

<i>Dr.</i>				<i>Wm. Sheller.</i>				<i>Cr.</i>			
1894								1894			
Jan.	12	To Wm. Sheller		61	84	Jan.	31	By Balance		61	84

				<i>H. Krueger.</i>							
1894								1894			
Jan.	13	To Wm. Sheller		45	10	Jan.	31	By Balance		45	10



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1. From

2. From

3. From

4. From

1. From

J. L.
F. A.

STATEMENT.

THE results of the foregoing record will be found condensed and classified in the Statement which follows. A Statement showing the condition of a business must of necessity exhibit its property and debts, or, as usually expressed, its resources and liabilities. The sources from which these facts are obtained in the present instance, so far as the record goes, are the Ledger, the Cash Book, and the Bill Book. The Ledger gives the debts due to and from the concern, the Cash Book gives the amount of Cash in possession, and the Bill Book gives the Notes and Bills Receivable and Payable. The value of unsold goods has to be obtained from actual inventory and appraisal, as is the case in any system of Bookkeeping.

Resources.

1. From Ledger Accounts:—Balance due from persons,				
John Smith	.....	\$	72	60
John Bird	.....		136	
Wm. Sheller	.....		61	84
H. Kueger	.....		45	10
2. From Cash Book:—Balance of Cash on hand,			5286	49
3. From Bill Book:—Notes on hand,			1457	18
4. From Inventory:—Merchandise on hand			4500	
Real Estate	.....		5000	
				\$16,559 21

Liabilities.

1. From Bill Book:—Note, favor Harvey Pierce & Co				2500
Present Worth	.....			14,059 21

Loss or Gain.

J. L. Nichols' Net Investment,	.....	9025		
F. A. Lueben's " "	.....	5400		
Present Worth	.....		14,425	00
			14,059	21
Loss	.....		\$	365 79

TRANSACTIONS.—DOUBLE ENTRY.

THIS SET IS WRITTEN UP.

Feb. 1, 1894.—Commenced business with the following resources and liabilities: **RESOURCES**—Cash, \$1822.20; Bills Receivable, \$171.50; Robert Baker's Account, \$350; Charles Marshall's Account, \$222.50; Edward Drager's Account, \$186.00; Samuel Peter's Account, \$293.75. — **LIABILITIES**—Our Note in favor of A. C. Bond, for \$2500.

Bought of Swinger & Williams, on $\frac{1}{6}$, 20 bags Rio Coffee, 1670 lbs., @ 15¢; 15 tierces Rice, 7500 lbs., @ 4¢; 15 hds. Cuba Sugar, 14,000 lbs., @ 5¢.

2.—Bought of Harvey & Co., for Cash, 12 hds. N. O. Molasses, 720 gals., @ 40¢; 20 boxes Soap, 1450 lbs., @ 8¢; 10 bbls. Pork, 2000 lbs., @ 10¢.

3.—Sold A. N. Farlow, on $\frac{1}{6}$, 30 lbs. Coffee, @ 18¢; 20 lbs. Rice, @ 5½¢; 100 lbs. Sugar, @ 6¢. — Received Cash of Robert Baker, in full of $\frac{1}{6}$, \$.....

3.—Paid Cash for Stationery and incidental expenses, \$20.

5.—Sold Amos Yorgery, on $\frac{1}{6}$, 1 bag Rio Coffee, 80 lbs., @ 18¢; 20 gals. N. O. Molasses, @ 50¢; 30 lbs. Rice, @ 5½¢. — Bought of Henry Albert, for Cash, 300 lbs. English Dairy Cheese, @ 20¢; 250 lbs. Butter, @ 18¢. — Sold D. D. Meyer, on his Note, at 30 days, 5 boxes Soap, 350 lbs., @ 10¢; 6 bags Rio Coffee, 485 lbs., @ 16¢.

6.—Bought of Chicago Tea Co., on our Note at 10 days, 40 hf. chests Y. H. Tea, 2356 lbs., @ 35¢. — Sold James Armstrong, for Cash, 10 hf. chests Tea, 580 lbs., @ 38¢; 100 lbs. English Dairy Cheese, @ 22¢.

9.—Sold Samuel Davison, for Cash, 50 lbs. Butter, @ 20¢; 50 lbs. Coffee, @ 18¢; 30 gals. Molasses, @ 50¢.

10.—Sold Aaron Masters, for Cash, 30 gals. Molasses, @ 50¢; 10 lbs. Rice, @ 6¢; 1 box Soap, 75 lbs., @ 10¢.

12.—Paid Clerk's Salary in Cash, \$15. — Bought of Alvin Simmons, on $\frac{1}{6}$, 15 bbls. Crushed Sugar, 2520 lbs., @ 10¢.

15.—Received Cash, on $\frac{1}{6}$ of Charles Marshall, \$100. — Sold Alfred Gibson, on $\frac{1}{6}$, 5 hf. chests Tea, 275 lbs., @ 50¢; 50 lbs. English Dairy Cheese, @ 23¢; 25 lbs. Rice, @ 5¢. — Sold Charles Marshall, on $\frac{1}{6}$, 20 gals. Molasses, @ 50¢; 3 boxes Soap, 210 lbs., @ 10¢.

16.—Received Cash, in full of $\frac{1}{6}$ of Edward Drager, \$..... — Sold F. A. Lueben, for Cash, 2 bbls. Crushed Sugar, 330 lbs., @ 11¢.

17.—Sold A. N. Farlow, on $\frac{1}{6}$, 50 lbs. Rio Coffee, @ 20¢; 100 lbs. Crushed Sugar, @ 11¢.

19.—Paid Cash, in full for our Note, favor of Chicago Tea Co., dated Feb. 6, and due this day, \$824.60.

20.—Sold Warren Spencer, for Cash, 100 lbs. Crushed Sugar, @ 11¢. — Received Cash of Charles Marshall, full of $\frac{1}{6}$, \$153.50.

22.—Paid Alvin Simmons, Cash in full of $\frac{1}{6}$, \$252. — Sold Samuel Barton, for Cash, 4 hf. chests Tea, 225 lbs., @ 50¢.

23.—Sold Alfred Gibson, on $\frac{1}{6}$, 50 lbs. English Dairy Cheese, @ 25¢; 75 lbs. Crushed Sugar, @ 11¢; 15 lbs. Coffee, @ 20¢; 2 boxes Soap, 140 lbs., @ 10¢.

24.—Sold Amos Yorgery, on $\frac{1}{6}$, 2 hds. Cuba Sugar, 1850 lbs., @ 6¢. — Received Cash, in full of B. Burton's Note of the 3rd ult., \$96.50; also for E. Carroll's Note, \$75. Total \$171.50.

28.—Paid Cash for Store Rent, \$100.

Inventory:—Merchandise on hand, \$2500.

DAY BOOK.

February 1, 1894.

Commenced business with the following resources and liabilities,
taken from previous Ledgers:

Resources.

V	Cash on hand	\$1822.20
	Bills Receivable, Notes, Drafts, etc.,	171.50
	Robert Baker's Account	350.00
	Charles Marshall's "	222.50
	Edward Drager's "	186.00
	Samuel Peter's "	293.75
		<u>3045 95</u>

Liabilities.

V	Bills Payable. Notes outstanding,	2500
V	Bought of Swinger & Williams on % 20 bags Rio Coffee, 1670 lbs., @ 15¢,	\$350.50
	15 tierces Rice, 7500 " @ 4¢,	300.00
	15 hhds. Cuba Sugar, 14000 lbs., @ 5¢,	700.00
		<u>1350 50</u>
V	Bought of Harvey & Co., for cash, 12 hhds. N. O. Molasses, 720 gals., @ 40¢,	\$288.00
	20 boxes Soap, 1450 lbs., @ 8¢,	116.00
	10 bbls. Pork, 2000 lbs., @ 10¢,	200.00
		<u>604</u>
V	Sold A. N. Farlow on % 30 lbs. Coffee @ 18¢,	\$5.40
	20 " Rice @ 5½¢,	1.10
	100 " Sugar @ 6¢,	6.00
		<u>12 50</u>

February 3.

V	Received of Robert Baker in full of %	350	
V	Paid Cash for Stationery and Incidental Expenses	30	
	5		
V	Sold Amos Gargery, on %,		
	1 bag Rio Coffee, 80 lbs., @ 18¢,	\$14.40	
	20 gals. N. O. Molasses, @ 50¢,	10.00	
	30 lbs. Rice, @ 5½¢,	1.65	
	"		26 05
V	Bought of Henry Albert, for Cash,		
	300 lbs. English Dairy Cheese, @ 20¢,	\$60.00	
	250 " Butter, @ 18¢,	45.00	
	"		105
V	Sold D. D. Meyer, on his note at 30 days,		
	5 boxes Soap, 350 lbs., @ 10¢,	\$35.00	
	6 bags Rio Coffee, 485 lbs., @ 16¢,	77.60	
	6		112 60
V	Bought of Chicago Tea Co., on our note at 10 days,		
	40 hfl. chests Y. H. Tea, 2356 lbs., @ 35¢,		824 60
	"		
V	Sold James Armstrong, for Cash,		
	10 hfl. chests Tea, 530 lbs., @ 38¢,	\$220.40	
	100 lbs. English Dairy Cheese, @ 22¢,	22.00	
	9		242 40
V	Sold Samuel Davison, for Cash,		
	50 lbs. Butter, @ 20¢,	\$10.00	
	50 " Coffee, @ 18¢,	9.00	
	30 gals. Molasses, @ 50¢,	15.00	
			34

February 10.

350	V	Sold Aaron Masters, for Cash,		
		30 gals. Molasses, @ 50¢,	\$15.00	
30		10 lbs. Rice, @ 6¢,	.60	
		1 box Soap, 75 lbs., @ 10¢,	7.50	
		12		23 10
	V	Paid Clerk's Salary in Cash		15
		"		
26 05	V	Bought of Alvin Simmons, on %,		
		15 bbls. Crushed Sugar, 2520 lbs., @ 10¢,	252	
		15		
	V	Received Cash, on % of Charles Marshall,		100
		"		
105	V	Sold Alfred Gibson, on %,		
		5 hf. chests Tea, 275 lbs., @ 50¢,	\$137.50	
		50 lbs. English Dairy Cheese, @ 23¢,	11.50	
112 60		25 " Rice, @ 5¢,	1.25	150 25
		"		
	V	Sold Charles Marshall, on %,		
		20 gals. Molasses, @ 50¢,	\$10.00	
824 60		3 boxes Soap, 210 lbs., @ 10¢,	21.00	31
		16		
	V	Received Cash, in full of Edward Diager's %,		186
		"		
242 40	V	Sold F. A. Lucben, for Cash,		
		2 bbls. Crushed Sugar, 330 lbs., @ 11¢,		36 30
		17		
	V	Sold A. W. Farlow, on %,		
		50 lbs. Rio Coffee, @ 20¢,	\$10.00	
34		100 " Crushed Sugar, @ 11¢,	11.00	21

February 19.

✓	Paid Cash, in full for our note, favor of Chicago Tea Co., dated Feb. 6, due this day,	824	60
	20		
✓	Sold Warren Spencer, for Cash, 100 lbs. Crushed Sugar, @ 11¢,	11	
	"		
✓	Received Cash of Charles Marshall, full of %,	153	50
	22		
✓	Paid Alvin Simmons, Cash in full of %,	252	
	"		
✓	Sold Samuel Barton, for Cash. 4 hf. chests Tea, 225 lbs., @ 50¢,	112	50
	23		
✓	Sold Alfred Gibson, on %, 50 lbs. English Dairy Cheese, @ 25¢, \$12.50 75 " Crushed Sugar, @ 11¢, 8.25 15 " Coffee, @ 20¢, 3.00 2 boxes Soap, 140 lbs., @ 10¢, 14.00		
	24	37	75
✓	Sold Amos Gorgery, on %, 2 hhds. Cuba Sugar, 1850 lbs., @ 6¢,	111	
	"		
✓	Received Cash, in full of B. Burton's note of the 3rd ult., due March 5, \$96.50 Also for E. Carroll's note, due March 1, 75.00		
	28	171	50
✓	Paid Cash for Store Rent,	100	

JOURNAL.

De.

Cr.

Feb. 1, 1894.

824	60	✓	Cash	1822	20		
		✓	Bills Receivable	171	50		
		✓	Robert Baker	350			
11		✓	Charles Marshall	222	50		
		✓	Edward Draper	186			
153	50	✓	Samuel Peters	293	75		
		✓	To Stock			3045	95
252		✓	Stock	2500			
		✓	To Bills Payable			2500	
		✓	Merchandise	1250	50		
112	50	✓	To Swinger & Williams			1250	50
		✓	Merchandise	604			
		✓	To Cash			604	
		✓	A. N. Farlow	12	50		
37	75	✓	To Merchandise			12	50
		✓	Cash	350			
111		✓	To Robert Baker			350	
		✓	Expense	20			
		✓	To Cash			20	
		✓	Amos Yorgery	26	05		
171	50	✓	To Merchandise			26	05
100		✓	Merchandise	105			
		✓	To Cash			105	

Feb. 5.

Dr.

Cr.

✓	Bills Receivable	112	60		
✓	To Merchandise			112	60
✓	Merchandise	6			
✓	To Bills Payable	824	60		
✓	"			824	60
✓	Cash	242	40		
✓	To Merchandise			242	40
✓	Cash	9			
✓	To Merchandise	34			
✓	"			34	
✓	Cash	23	10		
✓	To Merchandise			23	10
✓	Expense	12			
✓	To Cash	15			
✓	"			15	
✓	Merchandise	252			
✓	To Alvin Simmons			252	
✓	Cash	15			
✓	To Charles Marshall	100			
✓	"			100	
✓	Alfred Gibson	150	25		
✓	To Merchandise			150	25
✓	"				
✓	Charles Marshall	31			
✓	To Merchandise			31	
✓	"				
✓	Cash	16			
✓	To Edward Draper	186			
✓				186	

Feb. 16.

Dr. Cr.

112 60	✓ Cash	36 30	
	✓ To Merchandise		36 30
824 60	✓ A. W. Farlow 17 —	21	
	✓ To Merchandise		21
242 40	✓ Bills Payable 19 —	824 60	
	✓ To Cash		824 60
34	✓ Cash	11	
	✓ To Merchandise		11
23 10	✓ Cash	153 50	
	✓ To Charles Marshall 22 —		153 50
15	✓ Alvin Simmons	252	
	✓ To Cash		252
252	✓ Cash	112 50	
	✓ To Merchandise		112 50
100	✓ Alfred Gibson 23 —	37 75	
	✓ To Merchandise		37 75
150 25	✓ Amos Yorgery 24 —	111	
	✓ To Merchandise		111
31	✓ Cash	171 50	
	✓ To Bills Receivable		171 50
186	✓ Expense 28 —	100	
	✓ To Cash		100

LEDGER.

<i>Dr.</i>				<i>Stock.</i>				<i>Cr.</i>			
1894.								1894.			
Feb.	1	To Bills Payable	2500					Feb.	1	By Sundries	3045 95
"	28	" Present Worth	836	30				"	28	" Loss & Gain	290 35
			3336	30							3336 30

<i>Cash.</i>											
1894.								1894.			
Feb.	1	To Stock	1822	20				Feb.	2	By Mds.	604
"	3	" Robert Baker	350					"	3	" Expense	20
"	6	" Mds.	242	40				"	5	" Mds.	105
"	9	" "	34					"	12	" Expense	15
"	10	" "	23	10				"	19	" Bills Payable	824 60
"	15	" Chas. Marshall	100					"	22	" Alvin Simmons	252
"	16	" Edward Draper	186					"	28	" Expense	100
"	"	" Mds.	36	30				"	"	" Balance	1321 90
"	20	" "	11								
"	"	" Chas. Marshall	153	50							
"	22	" Mds.	112	50							
"	24	" Bills Receivable	171	50							
			3242	50							3242 50

<i>Bills Receivable.</i>											
1894.								1894.			
Feb.	1	To Stock	171	50				Feb.	24	By Cash	171 50
"	5	" Mds.	112	60				"	28	" Balance	112 60
			284	10							284 10

Q

Robert Baker.

Er

		Cr
	3045	95
	290	35
	3336	30

1894. Feb.	1	To Stock	350	1894. Feb.	3	By Cash	350
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Charles Marshall.

604	
20	
105	
15	
824	60
252	
100	
1321	90
3242	50

1894.	Feb.	1	To Stock	222	50	1894.	Feb.	15	By Cash	100	
"	"	15	" Wdra.	31		"	"	20	" "	153	50
				253	50					253	50

Edward Drager.

1894. Feb.	1	To Stock	186	1894. Feb.	15	By Cash	186

Samuel Peters.

171	50
112	60
284	16

[illegible]

<i>Dr.</i>				<i>Bills Payable.</i>				<i>Cr.</i>			
1894.	Feb.	19	To Cash	824	60	1894.	Feb.	1	By Stock	2500	
	"	28	" Balance	2500			"	6	" Wds.	824	60
				3324	60					3324	60

Merchandise.

1894.	Feb.	1	To Swinger & Williams	1250	50	1894.	Feb.	3	By A. W. Farlow	12	50
	"	2	" Cash	604			"	5	" Amos Yorgery	26	05
	"	5	" "	105			"	"	" Bills Receivable	112	60
	"	6	" Bills Payable	824	60		"	6	" Cash	242	40
	"	12	" Alvin Simmons	252			"	9	" "	34	
	"	28	" Loss & Gain	425	35		"	10	" "	23	10
							"	15	" Alfred Gibson	150	25
							"	"	" Chas. Marshall	31	
							"	16	" Cash	36	30
							"	17	" A. W. Farlow	21	
							"	20	" Cash	11	
							"	22	" "	112	50
							"	23	" Alfred Gibson	37	75
							"	24	" Amos Yorgery	111	
							"	28	" Inventory	2500	
				3461	45					3461	45

Swinger & Williams.

1894.	Feb.	28	To Balance	1250	50	1894.	Feb.	1	By Wds.	1250	50
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Cr

Dr

A. N. Farrow.

Cr

2500	
834	60
3324	60

1894.	Feb. 3	To Mds.	12	50	1894.	Feb. 28	By Balance	33	50
	" 17	" "	21						
			33	50				33	50

Expense.

12	50
26	05
112	60
242	40
34	
23	10
150	25
31	
36	30
21	
11	
112	50
37	75
111	
2500	
3461	45

1894.	Feb. 3	To Cash	20		1894.	Feb. 28	By Loss & Gain	135	
	" 12	" "	15						
	" 28	" "	100						
			135					135	

Amos Yorgery.

1894.	Feb. 5	To Mds.	26	05	1894.	Feb. 28	By Balance	137	05
	" 24	" "	111						
			137	05				137	05

Alvin Simmons.

1894.	Feb. 22	To Cash	252		1894.	Feb. 12	By Mds.	252	
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1250	50
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<i>Dr</i>				<i>Cr</i>			
<i>Alfred Gibson.</i>							
1894.	Feb. 15	To Wds.	150 25	1894.	Feb. 28	By Balance	188 00
"	23	" "	37 75				
			188 00				188 00

Loss and Gain.

1894.	Feb. 28	To Expense	135	1894.	Feb. 28	By Wds.	425 35
"	"	" Stock	290 35				
			425 35				425 35

<i>Resources.</i>				<i>Balance.</i>				<i>Liabilities.</i>			
1894.	Feb. 28	To Cash	1321 90	1894.	Feb. 28	By Bills Payable	2500				
"	"	" Bills Receivable	112 60	"	"	" Swinger & Williams	1250 50				
"	"	" Wds.	2500	"	"	" Stock	836 30				
"	"	" Samuel Peters	293 75								
"	"	" A. N. Farlow	33 50								
"	"	" Amos Gregory	137 05								
"	"	" Alfred Gibson	188								
			4586 80				4586 80				

Trial Balance.

DIFFERENCES		FACE OF LEDGER.		LEDGER ACCOUNTS.		FACE OF LEDGER.		DIFFERENCES	
		2500		Stock		3045	95	545	95
1321	90	3242	50	Cash		1920	60		
112	60	284	10	Bills Receivable		171	50		
		350		Robert Baker		350			
		253	50	Charles Marshall		253	50		
		186		Edward Oranger		186			
293	75	293	75	Samuel Peters					
		824	60	Bills Payable		3324	60	2500	
2674	65	3036	10	Merchandise		961	45		
				Swinger & Williams		1250	50	1250	50
33	50	33	50	A. N. Farlow					
133		135		Expense					
137	05	137	05	Amos Gregory					
		252		Alvin Simmons		252			
188		188		Alfred Gibson					
4296	45	11716	10	Equilibrium		11716	10	4296	45



A TRANSACTION, TO BE WRITTEN UP.

- Mar. 1. C. E. Kelley commenced business this day with a cash capital of \$2000.
- Mar. 2. Paid cash for rent of store in advance, 6 months, @ \$75; \$450.
- Mar. 3. Bought of J. D. Field & Co., on my Note at 30 days, 8% interest, 50 bbls. Minnesota Flour @ \$6, \$300.
- Mar. 5. Bought of Wheeler & Andrews, for Cash, 5 sacks Rio Coffee @ \$12.50, \$62.50; 10 boxes Boston Crackers @ \$1.60, \$16; 5 bbls N. O. Sugar @ \$22.50, \$112.50; 8 bbls. N. Y. Salt @ \$2.50, \$20. Total \$211.
- Mar. 7. Sold to W. Hunter, on account, 20 bbls. Minnesota Flour @ \$6.75, \$135.
- Mar. 8. Sold Stephen Whitney, 3 bbls. N. O. Sugar, @ \$26.25, \$78.75. Received in payment his Draft on H. Williams at 10 days' sight.
- Mar. 9. Bought of S. A. Maxwell & Co., for Cash, set of Blank Books for Store, \$18.50.
- Mar. 11. Bought of W. H. Southard, 200 bbls. Winter Apples, @ \$2.50, \$500. Gave in payment my Note at 30 days for \$200; Cash \$200; balance on account, \$....
- Mar. 13. Sold Louis Stinson, 100 bbls. Winter Apples, @ \$2.75, \$275. Received in payment 200 bu. Potatoes, @ 75¢, \$150; his Note at 15 days for balance, \$....
- Mar. 14. C. E. Kelley has received a legacy from a deceased relative, consisting of 10 shares Illinois Central Railroad Stock, @ \$208, \$2080; Cash, \$1000. Total \$2080, which he has invested in the business.
- Mar. 16. Sold J. I. Hollister, Moline, Ill., on account, 3 sacks Rio Coffee, @ \$14, \$42; 5 boxes Boston Crackers, @ \$1.80, \$9. Total \$51.
- Mar. 17. Paid Cash for Postage Stamps \$5.
- Mar. 19. Sold Geo. Keller, on his Note at 60 days, 50 bbls. Winter Apples, @ \$2.80, \$140.
- Mar. 21. Received Cash of W. Hunter, on account, \$75.
- Mar. 22. Paid W. H. Southard, on account, Cash, \$60.
- Mar. 22. Received Cash of H. Williams for Stephen Whitney's Draft on him at 10 days' sight, \$78.75.
- Mar. 24. Bought of James Berry, 15 boxes German Soap, 600 lbs., @ 7¢, \$42; 10 coils Inch Rope, 800 lbs., @ 4¢, \$32; 5 bbls. Cider Vinegar, 150 gals., @ 25¢, \$37.50; 15 chests Y. H. Tea, 675 lbs., @ 45¢, \$303.75. Total, \$415.25. Gave in payment Geo. Keller's Note of the 19th inst. at 6% discount. Face of Note \$140; discount off, 58 days, \$1.35; my Note at 30 days for \$150, Cash \$100; balance on % , \$.....
- Mar. 25. Sold to W. D. Waller, on account, 10 bbls. Minnesota Flour, @ \$6.75, \$67.50; 50 bbls. Winter Apples, @ \$2.80, \$140; 3 bbls. Cider Vinegar, 90 gals., @ 30¢, \$27; 5 coils Inch Rope, 400 lbs., @ 5¢, \$20; 100 bu. Potatoes, @ \$1, \$100. Total, \$354.50.
- Mar. 26. Drew at 10 days' sight on J. L. Holister, Moline, Ill., and Discounted Draft at First National Bank. Face of Draft \$51. Discount off, 25¢. Net proceeds received in Cash, \$50.75.
- Mar. 26. Sold for Cash, Postage Stamps, \$1.80.
- Mar. 27. Sold J. R. Wheeler, 50 bu. Potatoes, @ 85¢, \$42.50; 3 bbls. N. Y. Salt, @ \$2.80, \$8.40; 5 coils Inch Rope, 400 lbs., @ 5¢, \$20. Total, \$70.90. Received in payment his Note at 30 days for \$50; Cash for balance \$.....
- Mar. 28. Received Cash of W. Hunter, to apply on his account, \$25.
- Mar. 28. Received Cash for 6 per cent. Dividend on 10 shares Illinois Central Railroad Stock, \$60.
- Mar. 29. Paid my Note, favor J. D. Field & Co., before due; also interest on same to date. Face of Note, \$300; interest on same, 26 days, at 8%, \$1.73. Total, \$301.73. Gave in payment Sight Draft on W. D. Waller for \$200; Cash for balance, \$.....
- Mar. 29. Sold A. J. Bailey, 2 bbls. Cider Vinegar, 60 gals., @ 30¢, \$18; 5 bbls. N. Y. Salt, @ \$2.75, \$13.75; 10 bbls. Minnesota Flour, @ \$7, \$70; 5 chests Y. H. Tea, 225 lbs., @ 60¢, \$135. Total, \$236.75. Received in payment, Cash, \$100; his Note at 30 days for balance, with 6% interest added. Balance of Bill, \$136.75; interest added, 75¢. Face of Note, \$137.50.
- Mar. 30. Received of W. D. Waller, on account, his Note at 30 days for \$75; Cash, \$60. Total, \$135.
- Mar. 31. Louis Stinson has paid his Note and interest thereon in Cash. Face of Note, \$125; Interest, 18 days, at 8%, 50¢. Total, \$125.50.

(TRANSACTION TO BE WRITTEN UP, Continued.)

INVENTORY OF PROPERTY UNSOLD, MARCH 31, 18...

ASSETS		LIABILITIES	
10 bbls. Minnesota Flour,		1000	1000
2 bbls. N. O. Sugar,		100	100
50 bu. Potatoes,		100	100
15 boxes German Soap, 600 lbs.,		100	100
5 boxes Boston Crackers,		100	100
10 chests Young Hyson Tea, 450 lbs.,		100	100
2 sacks Rio Coffee,		100	100
10 shares Illinois Central R. R. Stock,		1000	1000
5 months' Rent of Store, paid in advance,		100	100
		1000	1000

RESULTS FROM THE LEDGER.

Cash on hand,	-
Bills Receivable on hand,	\$2451.47
Bills Payable unpaid,	262.50
Personal Accounts owing me,	350.00
Personal Accounts I owe,	54.50
C. E. Kelley's Net Capital at closing,	66.60
	<u>\$2068.97.</u>



HOW TO WRITE ALL KINDS OF NOTES.



1. **THERE IS NO EXCUSE** for any one not to be able to write a Note or fill out a printed form. Everybody should be familiar with the common form. It takes but little study and little practice to attain that accomplishment to be able to write a note correctly. It is one of the most common and simple business papers.

2. **FORMS.**—In the copies which follow there are all the different kinds of forms used in business; also all the different forms of Indorsements, and further on in this work will be found the law explaining all the different forms of business papers arranged for ready reference.



COMMON FORM OF NOTE.

Form 1.

\$ 125.25	Mt. Vernon, Ia., March 26, 1895.
Ten Months after date I promise to pay to the	
order of Leonard Furbush	
One Hundred Twenty-Five and	$\frac{25}{100}$ DOLLARS.
at Seven per cent Interest from date	
Value Received.	
No. _____	Due _____
H. Dean	

The above Note is a form commonly used in almost all business transactions where an ordinary form is required. Most all printed forms are similar to this.



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witness wri



This Note
it on the very

A NOTE BY A PERSON WHO CANNOT WRITE.

Form 2.



\$ 100. Lamont, Ill., May 15, 1895.
Two Years after date I promise to pay to
 the order of Samuel Nicholson
One Hundred and no 100 **DOLLARS.**
at Lamont, with interest at Seven per cent.
 Value Received.
Witness, Isaac Clark. Charles X Thompson.
 mark.

The above Note is given by a person who cannot write. All that is necessary is for Mr. Thompson to make the "mark" or simply touch the pen while the mark is being made, and it becomes a legal Note and has as much force as though he had been able to write his name himself. It must, however, be witnessed and the name of the witness written at the left, as in the above copy.

ON DEMAND.

Form 3.



\$ 500.⁰⁰ Cris, Pa., March 1st, 1895.
On demand I promise to pay to
 the order of Harrison Pinkner
Five Hundred 00 **Dollars,**
at Seven per cent. interest from date. 100
 Value Received.
 No. _____ Due _____ Isaac Williams.

This Note answers the same purpose as a Note written One day after date, and is payable whenever presented, it on the very same day it was given.

Form 4.

\$482.00.

Naperville, Ill., July 10, 1894.

Nine months after date, I promise to pay to James F. Clarke,
or order, Four Hundred and Eighty-Two Dollars, with interest at six
per cent. per annum. Value received.

Josiah Nottingham, Jr.

PAYABLE AT BANK.

Form 5.

\$245.60.

St. Paul, Minn., August 20, 1894.

One Year from date, I promise to pay James H. Polk Crawford,
or order, Two Hundred Forty-five Dollars and Sixty Cents, at the
Mechanics' National Bank, with seven per cent. interest.

Value received.

Samuel Kinsman.

JOINT AND SEVERAL NOTE.

Form 6.

\$800.00.

Natchez, Tenn., Oct. 23, 1894.

Six months after date, for value received, we, or either of us, promise
to pay May E. Kingsbury Eight Hundred (800) Dollars, with interest
at seven (7) per cent. per annum.

David Jamison.

Michael Whitehead.

THE FOLLOWING BLANKS MUST BE FILLED IN
CAREFULLY AND CORRECTLY.
Owner of..... Acres, Lot..... Con..... Township.....
Renter of..... Acres, Lot..... Con..... Township.....
Post Office..... Province.....

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Toronto, C

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Date, May

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LIEN AGREEMENTS.

67

THE FOLLOWING BLANKS MUST BE FILLED IN CAREFULLY AND CORRECTLY.

Owner of Acres, Lot Township
 Renter of Acres, Lot Township
 Post Office Province

NOTE.—This Order is not to be binding on the Massey-Harris Co., Ltd., until received and ratified by them.

The Massey-Harris Co., Ltd., Toronto, Ont.

You are hereby authorized to ship to me to *St. Marys Station*, on or about *5th* day of *July* next, or before required for use: 1 *Toronto Light Binder, 5 ft. Cut, No. —, at \$200.00*; 1 *Toronto Mower (a Horse) at \$75.00*, for which I agree to pay you *Two Hundred and Seventy-five Dollars* in Cash, or my notes, payable as follows:—

Note for \$75.00, due the first day of *January, 1896*, with Interest at *1%*
 Note for \$100.00, due the first day of *June, 1896*, with Interest at *1%*
 Note for \$200.00, due the first day of *January, 1897*, with Interest at *1%*

Payable at *Bank of Montreal, St. Marys.*

This Machine to be warranted as per Manufacture's Printed Warranty, endorsed hereon, and I agree to settle for it upon above terms, as soon as it is started and fills the Warranty.

I further agree to furnish security, satisfactory to you, at any time, if required. If I fail to furnish such security when demanded, or if I make any default in payment, or should I dispose of my landed property, you may then declare the whole price due and payable, and suit therefor may be immediately entered, tried, and finally disposed of in the Court in whose division the head office of *The Massey-Harris Co., Ltd.*, and you may retake possession of the machinery without process of law and sell it to pay the unpaid balance of the price whether due or not. Subject to the aforesaid provisions I am to have possession and use of the machinery at my own risk, but the title thereto is not to pass to me until full payment of the price, or any obligation given therefor. These conditions and agreements are to continue in force until the full payment of the price is made.

Agent, *E. Rannie.*

Witness, *M. S. Bowman.*

(Signed) *JOHN YOUNG.*

This is a combined form of order and lien agreement, and is extensively used by implement agents. The warranty is usually printed on the back of the lease. The Company is not responsible for the verbal agreement of their agents, nor for the argument he may use to induce the farmer to buy a machine. They go according to the written agreement, and the farmer should make sure that he fully understands the conditions of the order and warranty before signing it, and that he receives from the agent a true copy of the same.

Toronto, Ont., April 3, 1895.

Heintzman & Co., Piano Manufacturers, 117 King Street West, Toronto, will please furnish me with one of their style "G" Pianos, No. 1254, for which I agree to pay F.O.B. in Toronto, \$450.00, with interest at the rate of seven per cent. per annum, payable as follows: Fifty Dollars within 30 days after receiving the Piano, and the balance in two equal payments, payable in one year and two years respectively from date of first payment.

And it is hereby agreed that the said Piano shall not be removed from my residence at *Orangeville* without the consent of said Heintzman & Co., and on removal, notice is at once to be given to said firm, and in case of said Piano being destroyed, injured, or not returned to Heintzman & Co. on demand, I agree to pay the full value of the said Piano above mentioned of \$450.00.

I (we) agree not to countermand this order; also if the above Piano is not settled for according to "Terms" of order within thirty days after shipment, then the whole amount shall become due. I (we) agree also that the title to said Piano shall not pass until the whole price is paid, but shall remain your property till then, although notes or acceptances may have been given on account, and in case of default of any of the payments you are at liberty, without process of law, to take and remove said Piano, and I (we) hereby waive all claims for damages which I (we) might sustain from such removal, and it is hereby also agreed that any money paid on account of said Piano shall not be recoverable by law, but shall be forfeited as a rental charge for the use of said Piano, as this Piano is only on hire until paid for; and it is agreed that this order embodies all agreements between us, I (we) hereby waiving all agreements not embodied in this order. This order taken subject to the approval of Heintzman & Co.

Witness, *D. Sedgwick.*

R. A. McKINNON.

This or a similar form of lien agreement or lease is extensively used by companies who sell sewing machines, pianos, furniture or other goods on the installment plan. If the purchaser should fail in any one payment the whole amount becomes due and the company can take away the goods without process of law, and is not obliged to pay the purchaser back a cent even if all but the last payment was made.

RECEIVED from *John Smith & Co., one Gerhard Heintzman Piano, Cabinet Grand, No. 3426*, on hire at *Six Dollars* per month, payable in advance, the said Piano Forte being valued at *Four Hundred and Fifty Dollars*, which sum I agree to pay in the event of the said Instrument being injured, destroyed, or not being returned to *John Smith & Co.* on demand, free of expense, in good order, reasonable wear excepted.

It is agreed that I may purchase the said Piano Forte for the sum of *Four Hundred and Fifty Dollars*, payable as follows: *Fifty Dollars* on delivery of the Instrument and the balance, payable quarterly, in equal instalments of *Fifty Dollars (\$50.00)* each, respectively, from date of first payment, and interest on unpaid principal at seven per cent. per annum from date of agreement. But, until the whole of the purchase money be paid, the said Piano Forte shall remain the property of *John Smith & Co.*, Instrument without the written consent of *John Smith & Co.* And in default of the punctual payment of any instalment of the said purchase money, at the times above stated respectively, or at any time or times to which the payment thereof, or any part thereof, may hereafter be extended, or of the said monthly rental in advance, *John Smith & Co.*, or their agents, may, without rendering themselves liable to any action or actions for so doing, enter upon the premises where the said Piano Forte may be, and resume possession thereof, without any previous demand, although a part of the purchase money may have been paid, or a Note or Notes, Draft or Drafts, given on account thereof, and although the same may be then outstanding under discount, this agreement assumed by them, and being returned in good order, any sum received on account of the purchase money, beyond the amount due for rent, and any expenses incurred in reference to the said Instrument or payments hereunder, is to be repaid to me, and any Notes or Drafts received on account of the purchase money are to be returned to me at maturity. On payment in full of purchase money and interest, no rent or hire is to be charged to me.

It is further agreed that this receipt and agreement embodies the whole of the agreement between myself and *John Smith & Co.*, with respect to said Piano Forte, No. 3426, and I hereby waive all verbal agreements not embodied herein and agree that I am not entitled to receive credit at any time for any moneys which may be received by *John Smith & Co.*, by the discount of any of the Notes or Drafts which may have been taken by them on account of said purchase money.

Toronto, Ontario, May 6th, 1895.

Signature *JOHN HANDCOCK,*
 Address *324 Ontario Street.*

I hereby certify that the *Piano, No. 3426*, which I have received from *John Smith & Co.*, of *Toronto*, has their name and address labelled and printed upon it, and I also acknowledge to have this day received a copy of the within agreement.

Date, *May 6th, 1895.*

Signature, *JOHN HANDCOCK.*

This form of lien agreement was preferred by a committee of the Provincial Legislature who dealt with the matter at a recent session of the House. It is regarded as just and right from the fact that the company, on assuming the instrument for back payment, agrees to pay back part of the money to the purchaser.

JOINT NOTE.

Form 9.



\$ 500. Waring, Texas, June 5, 1895.

One day after date We promise to pay
to the order of David Davis

Five Hundred and no 100 Dollars,
at seven per cent. interest per annum.

Value Received. Daniel Kearns.
P. O. Hutchinson.

No. _____

If the above Note had been written *We* or *either of us* promise to pay David Davis etc., then one or both could be sued for payment; but as it is written "*We*", both must be sued jointly in case a forced collection should be necessary.

COLLATERAL NOTE.

Form 10.

\$1000.00. Mendota, Ill., Sept. 25, 1895.

Sixty days after date, I promise to pay to the order of
Isaac Mackintosh, One Thousand Dollars, with interest at Seven per
cent. Value received.

Having deposited a Note and Mortgage of the nominal value of Two Thousand Dollars, which I
authorize the holder of this Note, upon the non-performance of this promise at maturity, to sell, either at public or private
sale, without demanding payment of this Note or debt due thereon, and without further notice, and apply the proceeds, or
as much thereof as may be necessary, to the payment of this Note, and all necessary expenses or charges, holding myself
responsible for any deficiency.

Harmon Knowles.

This Collateral Note is a note of very strong conditions. It is used where a person demands some other security than personal security, and as in the above case, the Mortgage and Note are assigned, and they can be sold in case the claims of the Note are not met.

A Collateral Note may represent a note, or mortgage, or bonds, or several notes without mortgage, or most any paper can be put up as collateral security.

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No. 5

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Pay to

\$ 63.00.

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HOW TO WRITE AND FILL OUT

ALL KINDS OF

Checks and Drafts.



Form 1.

NAPERVILLE, ILL., June 15, 1895. No. 26.

The First National Bank
OF NAPERVILLE.

PAY TO THE ORDER OF

Nellie Whitaker

\$ 16.⁰⁰

Sixteen and no 100

DOLLARS.

Kate Everett.

A common Check, such as is used by almost all Banks. Must be indorsed—party identified before payment.

Form 2.

Southern Natural Gas and Oil Company,

No. 56.

Vincetown, N. J. March 15, 1895.

United Security Life Insurance and Trust Company
of Pennsylvania, 603 & 605 Chestnut St.,

Pay to the order of A. O. Everett, or Bearer,

Sixty Three and 50/100

Dollars.

\$ 63.⁵⁰

Pres.

Eliot Weeks,

Treas.

A Company's Check, payable to order or bearer. Must be indorsed by A. O. Everett when paid, yet identification is not necessary.

Form 3.

Naperville, Ill., Feb 16, 1895. No. 13.

WILLARD SCOTT & CO., BANKERS,
ESTABLISHED 1854.

PAY TO THE ORDER OF

Myself \$ 25.00

Twenty Five and no 100 Dollars.

Norace Jordan.

This Check is the common form and does not require indorsement. It is drawn by Mr. Jordan himself for the purpose of drawing money out of the Bank for his own use.

Form 4.

Milwaukee, June 18th, 1895. No. 28.

Wisconsin Marine & Fire Ins. Co. Bank.

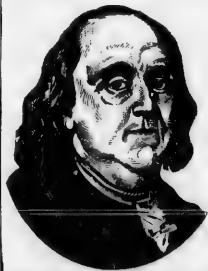
Pay to Wallace Howard or order \$ 65.00

 Sixty Five and no 100 Dollars

(In full of all demands to date.) Frank Fuller.

This Check is not only a payment of \$65.00, but it also represents a settlement for all demands. The words are placed on the lower left hand corner, and are a receipt for full payment and settlement of account. — This is a very good way to record a settlement or give the purpose of check. — The next form (5) is payable to Mr. Hitchcock or "bearer".

Form 5.

 \$ 16.50 Freedom, Pa., March 30, 1895.

Franklin National Bank,

Pay to Adam Hitchcock or bearer

Sixteen and 50/100 Dollars.

No. 20. Morris Twistved.

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This is a T
Sight Draft, as it
received at a dis

FORMS OF DRAFTS.

Form 6.

71

The First National Bank,

DUPLICATE UNPAID.

No. 38.

McGregor, Iowa, Feb. 28, 1895.

Pay to the order of Milton Everett

\$ 161.³⁰

One Hundred and Sixty-One and 30/100

Dollars.

To Importers' & Traders' National Bank,
New York City.

W. W. Wakeworth.

The above Draft is the common form and has been received by Milton Everett. He can present the same at the Bank and receive the money, by being identified as Milton Everett and indorsing the Draft on the back by signing his name.

Form 7.

\$ 130.²⁵

Rochester, N. Y., March 26, 1895.

At Sight

Pay to

the order of William Aldrich

One Hundred and Thirty and 25/100

Dollars.

Value received, and charge the same to account of

To Dwight Perry.

No. 22

Bronson, Kans.

Theodore Saunders.

This is a Sight Draft, and is used where one person, as the above Theodore Saunders, draws on Dwight Perry for \$130.25, to be paid to William Aldrich.
Now Mr. Saunders must have some right or claim upon Dwight Perry before drawing the Draft and sending it to William Aldrich. A Sight Draft is simply a demand for payment of a certain sum of money.

Form 8.

\$ 1830.⁰⁰

Toronto, Ont., May 6, 1895.

At Thirty days sight

Pay to

the order of Franklin Clark

Eighteen Hundred Thirty and no 100

Dollars.

Value received, and charge the same to account of

To Newton Cannon.

No. 13.

Menden, Ill.

William Lowden.

This is a Time Draft and payable in thirty days from date of acceptance. It is not in so general a use as the Sight Draft, as it represents a time payment without any provision for interest. They are, however, generally received at a discount.

Form 9.

CERTIFICATE OF DEPOSIT.

German American Bank
OF
WINONA, MINN.



June 5th, 1895. No. 20

O. A. Fuller has deposited in this Bank
Fourteen Hundred and no 100 Dollars, \$1400 00
payable in current funds to his order six months after date
on the return of this Certificate properly endorsed;
with interest at the rate of four per cent. per annum
till due. Samuel Haught,
Cashier.

INTEREST TO CEASE AFTER TWELVE MONTHS.

This is a Certificate of Deposit used by Banks to accommodate those who desire to use the Bank as temporary security for money or for interest, as the case may be. Where a Certificate of Deposit is given, the holder cannot draw the amount out by issuing Checks, but the Certificate itself has to be presented for indorsement.

Form 10.

 **The German American Bank,** No. 2263

MADISON, WIS., March 26, 1895.

Pay this First of Exchange (Second unpaid) to the order of
Leonard Bee \$ 306.55
Three Hundred Six and 55/100 Dollars,
IN CURRENT FUNDS.

To NATIONAL BANK OF ILLINOIS, }
CHICAGO, ILL. } David Hays,
Cashier.

This is a Bank Draft issued by one Bank upon another. These Drafts are used for sending money to some party at a distance. They are bought at the Bank, inclosed in a letter and sent to destination by mail. It is always best, however, to have the draft made out in your name and indorse it in favor of the person to be sent to, before sending it. It is the safest way.

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FORMS OF RECEIPTS.

73

RECEIPT FOR SETTLEMENT OF AN ACCOUNT.

Port Byron, Ill., April 8, 1895.

 Received of *Alvin L. Williamsen*

Three Hundred, and no 100 ————— Dollars,

in settlement of account to date

\$300.00

J. B. Drager.

The above form of Receipt is used to represent a settlement, and whenever a settlement is made, it should always be specified on a receipt.

RECEIPT IN FULL OF ALL DEMANDS.

Toledo, Iowa, Feb. 20, 1895.

 Received of *Isaac P. Andrews,*

Two Thousand and no 100 ————— Dollars,

in full of all demands to date.

\$2000.00

Jacob B. Fuller

This Receipt is similar to the first one and does not represent a long account, but simply a single transaction.

RECEIPT FOR RENT.

Denison, Texas, March 16, 1895.

 Received of *William F. Schultz,*

Thirty Five and no 100 ————— Dollars,

in full for one month's rent of residence at 23 Dexter Street.

\$35.00

John M. Zimmerman.

RECEIPT FOR A NOTE.

Knowles, Wis., May 3, 1895.

Received of *Williams & Butler*, their Note of this date,
 at six months, for *Ninety* and no *100* Dollars,
 in my favor; which, when paid, will be in full of account rendered
 to 1st inst.

\$ *90.00*

Fred W. Kraemer.

RECEIPT FOR PERSONAL SERVICE.

\$64 00

Horicon, Wis., March 10, 1895

Received of *John M. Martins*,
Sixty Four and no *100* Dollars,
 in full for services to date.

Arthur S. Goodrich.

RECEIPT FOR BORROWED MONEY.

Borrowed and

Winchester, Kas., June 8, 1895.

Received of *Nicholas C. Shuter*,
Eighty Three and no *100* Dollars,
 which I promise to pay on demand, with interest at the rate of 6%.

 \$ *83.00*

Anton R. Bloom.

While this is a Receipt in form it is a Note in fact, and is one of the best papers to have a party sign when they borrow money for a short time. It not only makes a memorandum of the transaction, but it makes a legal and negotiable paper and will hold the party responsible for the amount borrowed with legal interest.

This Receipt
 or the payment
 simple document
 own protection

\$ *30.00*

to appo

FORMS OF RECEIPTS.

75

RECEIPT FOR PROPERTY.

1895.
date,
llars,
rendered

Marshall, Minn., Aug. 10, 1895.

Received of F. Koch, the following articles, to be held in trust for him, and returned on his demand: One Gold Watch, and one Promissory Note dated May 20, 1895, signed by Henry Albert, and due six months from date.

James L. Thomas.

RECEIPT FOR PAYMENT BY THE HAND OF A THIRD PARTY.

1895
Dollars,

La Sueur, Minn., June 6, 1895.

Received of Ernest Koch, by the hand of A. Lea,
Six Hundred Fifty and no 100 Dollars,
in full for proceeds of Stock sold May 20, 1895.

F. Luchen.

This Receipt represents money paid by a third party for another, and it may be for the payment of a Note, or the payment of an Account, or for Rent, or for proceeds of a Sale, the same as the above form. It is a very simple document, and no money should be paid by a third party without demanding this form of receipt for their own protection.

RECEIPT FOR PARTIAL PAYMENT OF AN ACCOUNT.

1895.
Dollars,
of 6 %.

\$30.00

New Haven, Ind., Aug. 4, 1895.

Received of Mr. Peter Sanderson, Thirty Dollars, to apply on his account.

James Newton.

RECEIPT FOR THE PURCHASE OF A HORSE.



Stanton, Neb., Oct. 1, 1895.

Received of *A. N. Fallow,*

One Hundred, Sixty Six and 100 ——— Dollars

for a Bay Mare, warranted only five years old, free from
sickness and quiet to ride and drive.

\$ 166.00

J. W. Madison.

He who buys horses will find many times the value of this book in this receipt. This receipt holds the seller responsible to the conditions of the receipt, and when a horse is purchased from a responsible party, the value of this receipt will become self-evident. Never purchase a good horse without demanding this form of receipt, which not only is a receipt, but also a warrant that the horse is what he is represented to be.

RECEIPT FOR A LOST OR DESTROYED NOTE.

Fox Lake, Wis., Sept. 23, 1895.

Received of *Geo. B. Reichert,* Five Hundred and no 100 Dollars,
in full payment for a certain Note of hand, given by said *Geo. B. Reichert,*
dated *Sept. 20, 1894,* calling for Five Hundred Dollars; which said Note
is lost, destroyed or mislaid, and this receipt is a guarantee against future demands
on account of said Note.

\$ 500.00

J. A. Fleming.

The above Receipt is a very practical kind of paper to be used in case a Note is lost or destroyed by fire. But great care should be taken in the payment of a Note which has been destroyed. If the party who owned the Note and lost it is responsible, it is all right to pay the Note by receiving the above Receipt. But if the party who lost the Note is irresponsible, then he should be made to give security, in case the Note should turn up in the hands of some other party.

FORMS OF ORDERS AND DUE-BILLS.

77

ORDER PAYABLE IN CASH.

\$35.00

Darius, N. D., Dec. 20, 1895.

Messrs W. J. Miller & Co. will please pay to E. H. Kiefer,
or bearer, Thirty-five Dollars in Cash, and charge the same to my account.

August Belan

ORDER FOR GOODS.

Des Moines, Ia., Jan'y 23, 1895.

Mr. W. B. Heringer.

Please send me, per bearer, two barrels of Salt,
and of ...

Paul Beacham

ORDER FOR GOODS TO COLLECT & DELIVERY.

Waupaca, Wis., Oct. 2, 1895

Messrs. J. E. Pennington & Co.

Please send to my residence, 14 Waupaca ave.,
One bbl. Minnesota Flour, 10 lbs. Crushed Sugar and 5 lbs. ground Java
Coffee, (C. O. D.) and oblige.

Yours Respectfully,

John E. Sanderson.

ORDER TO BE PAID IN MERCHANDISE.

\$16.⁰⁰

Lawanda, Kans., August 17, 1895.

E. A. Walkbridge & Co

Gentlemen:.... Please let bearer, John Pink, have such goods as he may want, to the amount of Sixteen Dollars, and charge the same to me.

Jasiah Wadsworth

DUE-BILL PAYABLE IN CASH.

\$150.⁰⁰

Mingdon, Ill., Nov. 13, 1895.

Due Edward Dewitz, for value received, One Hundred and Fifty Dollars, with interest.

John C. Koehler.

DUE-BILL PAYABLE IN MERCHANDISE.

\$500.⁰⁰

Germantown, Ohio, July 20, 1895.

Due George E. Stacks, or order, Five Hundred Dollars, payable in Wheat at market price, on the first day of October next.

Oscar Little



One year order Four for Value payable at Witness:

1. Although continues to add years when he has an agreement for thereby becoming pay the Note.
2. NEVER sign a paper for

A Good Learning Book is Properly Aided by the Insurance Known.

1. In the blank for regular price per foot; by making the amount 6
2. A swindling note sends the note back to protect his house.
3. The note is given
4. The agent can't
5. That man, however, ne
6. Never deal with machinery line, patron



Do You Hear?...

Never Sign a Paper For a Stranger.

THE FAMOUS SWINDLING NOTE.

Naperville, Ill., Oct. 4, 1893.

One year after date, I promise to pay *Fred. G. Davis* or bearer Ten Dollars, when I sell by order Four Hundred and Seventy-Five Dollars (\$475.00) worth of Patent Fanning Mills, for Value Received, at Ten per cent. per annum. - - - Said Ten Dollars when due is payable at *Naperville, Illinois.*

Witness: *M. J. Meyers*

C. E. Selby, Agent for *Fred. G. Davis.*

1. Although the above scheme of the confidence man has been exposed time and time again, yet it still continues to add yearly to its list of victims. A paper is drawn up wherein a farmer agrees to pay ten or twenty dollars when he has sold goods to a given amount. By tearing off the right-hand end of this paper, what is apparently an agreement for a small amount becomes a Promissory Note for a considerable sum. This Note is sold at a Bank, thereby becoming the property of a third and innocent party, and the signer of the agreement is called upon to pay the Note.

2. **NEVER SIGN A PAPER** without carefully reading and examining the same. It is dangerous to sign a paper for an unidentified stranger.

THE LIGHTNING-ROD SWINDLE.

CONTRACT.

Naperville, Ill., Aug. 2, 1894.

Mr. F. J. Buchhold, please erect at your earliest convenience your Lightning Rods on my House, according to your rules, of which said House I am the owner, for which I agree to pay you cents per foot and \$3.00 for each point, \$4.00 each for vanes, \$5.00 each for arrows, \$1.50 each for balls, and \$2.00 for braces, cash when completed, or a note due on the first day of *February* next, 1895.

J. Hauswirth

1. In the blank for cents, the canvasser or agent puts in some single figure, say 7, that being understood to be the regular price per foot; but after the contract is signed, the agent at his leisure quietly inserts a 6 before the 7, or some other figure, making the amount 67 cents per foot, instead of 7 cents as signed and agreed upon.
2. A swindling note is generally obtained, and the contract kept in the background; but when the collector comes along and presents the note backed by the contract in plain figures, the farmer sees that he himself has been struck by lightning while trying to protect his house.
3. The note is generally in the hands of an innocent party, and according to law may be collected.
4. The agent canvassing the victim generally promises that the rodding of the house shall not cost over \$28.00 or \$35.00. But that man, however, never appears on the scene again.
5. Never deal with irresponsible persons. If you desire rods, employ your hardware merchants; or if you desire anything in the machinery line, patronize honest and trusted dealers, and take no chances of "being taken in."

A Good Lightning Rod is Properly Applied But the Cheapest and Best Insurance Known.

1895.

Dollars,

at.

1895.

HOW TO MAKE ALL KINDS OF INDORSEMENTS.

SAME AS USED IN ACTUAL BUSINESS.

BLANK INDORSEMENT.

Edward Furbush

This is a blank indorsement of the Note Form 1. (*See Notes.*) This form of indorsement holds the indorser responsible for the payment of the Note, and it is the common way of indorsing commercial paper when it is transferred, unless other forms are specified and agreed upon.

INDORSEMENT IN FULL.

Pay to the order of J. J. Pool
Edward Furbush

This form of indorsement is what is called an indorsement in Full, and is Form 1, indorsed in favor of J. J. Pool, who now becomes the specified owner of the Note, and if not paid by the maker he can call upon Furbush to pay the Note. The liability is the same as in blank indorsement.

Without Recourse

This in law
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used, if nothing

J. L. Nichols,

This indorsement
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to cover the trans
in accepting paper

Pay to J. L. Nichols

This form is rare
of the above form of

FORMS OF INDORSEMENTS.

INDORSEMENT WITHOUT RESPONSIBILITY.

81

Without Recourse.
Harrison Trinkner.

This in law is called a *Qualified Indorsement*, and releases the indorser from all responsibility. If Isaac Williams, Form 3 (see Notes), fails to pay the Note, no action can be brought against Harrison Trinkner. This form of indorsement is always a matter of agreement between the contracting parties, and the common form is always used, if nothing is said to the contrary when a Note or other negotiable paper is purchased or transferred.

INDORSEMENT BY AN AGENT.

J. L. Nichols,
by J. A. Hertel, his agent.

This indorsement is only legal in case J. A. Hertel has a Power of Attorney from J. L. Nichols, fully authorizing him to make indorsements on Notes, etc. A Power of Attorney must be broad enough in its scope of authority to cover the transfer of negotiable paper, or such transfer would not be legal. Great care and caution is necessary in accepting paper indorsed by an agent.

A RESTRICTIVE INDORSEMENT.

Pay to J. Seachronsky
John Seachronsky

This form is rarely used, as it ties up the paper, and rarely a condition of business occurs that warrants the use of the above form of indorsement.

MONEY INDORSEMENTS.

Received on, within Note,
Jan. 15, 1895,
Fifty Dollars (\$40.00)
April 25, 1895,
One Hundred Dollars,
(\$100.00)
Dec. 6, 1896,
One Hundred Fifty
Dollars (\$140.00)

Money indorsements should be made in the presence of the party paying the money. It is best always to take a receipt for money paid on a Note. It is the only safe way.

A TRANSFER OF NOTE WITH INDORSEMENTS.

Received on, within Note,
June 6, 1894,
Fifty Dollars (\$40.00)
July 5, '95,
Eighty Dollars (\$80.00)
Pay to the order of
Andrew Jay.
John Hoffman

The title of the above Note passes from John Hoffman to Andrew Jay. The balance due on Note must be paid to Andrew Jay, providing the Note was not due when transferred. If Notes are transferred after maturity the debtor on Note can refuse to pay the new holder of Note, but the original owner John Hoffman can collect Note if he again secures possession of it.

GUARANTY OF PAYMENT.

For Value received in
Cash, I hereby guaran-
tee the payment of the
within Note
James D. Hurling

This form of indorsement holds the indorser responsible, if he is properly notified when the Note becomes due. In Illinois and some other States notice of non-payment is not necessary, but it is always best to notify indorsers of non-payment as soon as demand is made. All guaranties must be in writing and specify value received.

Mr. D.

DRY

Jan'y

"

Feb.

March

"

April

HOW TO WRITE ALL THE DIFFERENT FORMS OF BILLS.

Sidney, Cheyenne Co., Neb., March 10, 1895.

Mr. Bernie Rogers,

Maiden, Ill.



CHARLES A. MOORE,

DEALER IN

DRY GOODS, GROCERIES, CLOTHING,

—❖— AND GENERAL MERCHANDISE. ❖—

Jan'y	4	To 22 yds. Calico, @ 40¢	2	90		
"	"	" 4 bu. Potatoes, @ \$1.00	4	00		
Feb	10	" 1 set of Dishes,	22	00		
March	1	By Cash			10	00
"	18	To 16 yds. Blue Drilling @ 20¢	3	20		
April	11	To 20 lbs. Coffee, @ 30¢	6	00		
		Balance due			27	40
		Received Payment				
		C. A. Moore.				
		May 20, 1895				

Note must be
er maturity th
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otify indorsers
received.

A BILL FOR WORK.

Naples, W. Va., Jan. 1, 1895.

William Smith, Dr.

To James Newcomb,

For 8 days' work Husking Corn, @ \$1.25, \$10.00.

Received Payment

James Newcomb

A BILL FOR THRASHING.

Grand Ridge, Ill., Oct. 2, 1895.

James Philpott, Dr.

To Amos Luckey,

For Thrashing 800 bushels Oats, @ 2½¢, \$20.00

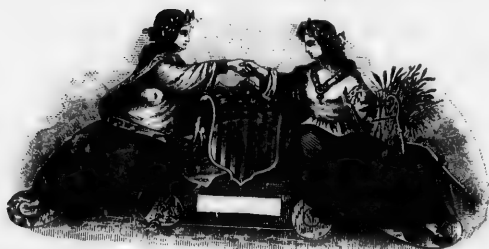
" " 200 " Wheat, @ 5¢, 10.00

" " 180 " Rye, @ 3½¢, 6.75

\$36.75.

Received Payment

Amos Luckey



HOW TO WRITE ALL KINDS OF LEASES.

A LEASE FOR RENTING A HOUSE.

This is to Certify, That I have this Sixth day of September, 1894, let and rented unto Andrew Jay my house and premises, Number 142 on Archer Street, in the town of Livermore, and State of Iowa, with the sole and uninterrupted use and occupation thereof for one year, to commence the first day of May next, at the monthly rent of Twenty Dollars, payable in advance.

Witness my hand and seal.

Henry R. Rilling. Seal

SHORT FORM OF LEASE.

Rufus Parks leases to Harry Phillips, Abington, Illinois, house and lot on Irving Street, on payment of ten dollars monthly.

Dated this 1st day of February, 1895.

Rufus Parks.

This Indenture, made the *First* day of *March*, in the Year of our Lord One Thousand Eight Hundred and *Ninety-Six*,

BETWEEN *Christopher W. Brendon, of the City of Toronto, in the County of York, Gentleman*, (hereinafter called the Lessor), of the First Part, and *Job Jones, of the Township of York, in the County of York, Yeoman*, (hereinafter called the Lessee), of the Second Part: *WITNESSETH*, That for and in consideration of the yearly rent, covenants and conditions hereinafter reserved and contained, he, the said Lessor, doth demise, lease, and to farm let, unto the said Lessee, *his* executors, administrators and assigns, ALL that certain parcel or tract of land, situate, lying and being in the *Township of York, in the County of York, and being composed of the North half of Lot Number Five in the Second Concession from the Bay, in the said Township of York, containing by admeasurement one hundred acres more or less, TOGETHER* with all erections and buildings, barns, stables, and other outhouses thereupon erected, standing and being, or hereafter during the said term to be erected, standing and being, AND TOGETHER ALSO with all ways, paths, passages, waters, water-courses, privileges, advantages and appurtenances whatsoever to the same premises belonging, or in anywise appertaining. To have and to hold the same unto the said Lessee, *his* executors, administrators and assigns, for the term of *five years*, to be computed from the *First* day of *March*, in the Year of our Lord One Thousand Eight Hundred and *Ninety-Six*.

YIELDING AND PAYING therefor yearly and every year during the said term unto the said Lessor the clear yearly rent or sum of *Four Hundred Dollars* of lawful money of Canada, payable in quarterly instalments of *One Hundred Dollars* each on the *First* days of *March, June, September and December* in each and every year during the said term, without any defalcation or abatement thereout on any account whatsoever, the first of such payments to become due and to be made on the *First day of June* next, (or, one-third part of all the corn, wheat, oats, barley, rye, potatoes, wild and tame hay, and of all and every kind of grain or produce raised upon said land, the same to be delivered to the Lessor or his authorized agent at the said City of Toronto between the *First* day of *October* and the *Twentieth* day of *December* in each and every year during the said term).

AND the said Lessee doth hereby for *himself*, *his* heirs, executors, administrators and assigns, Covenant, promise and agree, to and with the said Lessor, *his* heirs and assigns, in manner following, that is to say: That he the said Lessee, *his* executors, administrators or assigns, or some or one of them, shall and will well and truly pay, or cause to be paid, unto the said Lessor, *his* heirs or assigns, the said yearly rent of

Four Hundred Dollars on the days and times, and in manner hereinbefore mentioned and appointed for payment thereof, without any deduction or abatement thereout on any account whatsoever. And also shall and will from time to time, and at all times during the said term well and truly pay, or cause to be paid, all taxes, rates, levies, duties, charges, assessments and impositions whatsoever, whether parliamentary, municipal

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FARM LEASE, EITHER FOR CASH OR ON SHARES.—*Con.*

or otherwise, which now are, or which during the continuance of the said term hereby demised, shall at any time be rated, charged, assessed or imposed on said premises, or any part thereof.

AND that the said Lessee will during the said term, cultivate, till, manure, and employ such part of said demised premises as is now, or shall hereafter be brought under cultivation, in a good husband-like and proper manner, so as not to impoverish or injure the soil, and plough said land in each year during said term six inches deep, and at the end of said term will leave the said land so manured as aforesaid. And will crop the same during the said term by a regular rotation of crops in a proper farmer-like manner, so as not to impoverish or injure the soil of the said land, and will use his best and earnest endeavours to rid said land of all docks, wild mustard, red roots, Canada thistles, and other noxious weeds. And will preserve all orchard and fruit trees (if any) on the said premises, from waste, damage or destruction; And will spend, use and employ, in a husband-like manner, upon the said premises, all the straw and dung which shall grow, arise, renew, or be made thereupon; And will allow any incoming tenant to plough the said land after harvest in the last year of the said term, and to have stabling for two horses and bed room for one man. And will leave at least ten acres seeded down with timothy and clover seed.

AND shall not nor will during the said term cut any standing timber upon the said lands, except for rails or for buildings upon the said demised premises, or for firewood upon the premises, and shall not allow any timber to be removed from off the said premises; And also shall and will, at the costs and charges of the said Lessee, well and sufficiently repair and keep repaired the erections and buildings, fences and gates erected or to be erected upon the said premises.

AND ALSO shall and will at the expiration or other sooner determination of this Lease, peaceably and quietly leave, surrender and yield up unto the said Lessor, *his* heirs or assigns, the said premises hereby demised, in such good and sufficient repair as aforesaid (reasonable use and wear thereof, and damages by fire or tempest only excepted):

AND ALSO that it shall be lawful for the said Lessor, *his* heirs and assigns, twice or oftener in every year during the said term, to enter upon the said demised premises, to view the state and condition of the same, and that the said Lessee, *his* executors, administrators or assigns, will repair the same according to notice:

AND ALSO shall not nor will, at any time during the said term, assign, transfer or sublet the said premises hereby demised without the license and consent of the said Lessor, *his* heirs or assigns, in writing, for that purpose first had and obtained;

PROVIDED ALWAYS, that if the said yearly rent hereby reserved, or any part thereof, shall be in arrear for twenty-one days after any one of the days appointed for payment thereof as aforesaid, whether the same shall be lawfully demanded or not; or if the said Lessee, *his* executors, administrators or assigns, shall assign or sublet the said premises without such license as aforesaid; or in case of breach of any of the covenants herein contained, then, and in any of the said cases, it shall be lawful for the said Lessor, *his* heirs or assigns, into or upon the said premises, or any part thereof, in the name of the whole to re-enter, and the same to have again, re-possess and enjoy as in his and their first and former estate, and the said Lessee, *his* executors, administrators and assigns, and all persons claiming under *him* thereout to expel, put out and remove, anything hereinbefore contained to the contrary notwithstanding;

AND the said Lessor doth hereby for *himself*, *his* heirs and assigns, Covenant, promise and agree to and with the said Lessee, *his* executors, administrators and assigns, that he and they paying the said rent, and performing the covenants herein contained on *his* and their parts, shall and may peaceably and quietly hold and enjoy the said premises during the said term, without any molestation, hindrance or disturbance of, from or by the said Lessor, *his* heirs and assigns, or any other person claiming under him or them.

AND ALSO, that if the term hereby granted shall be at any time seized or taken in execution or in attachment by any creditor of the said Lessee, or if the said Lessee shall make any assignment for the benefit of creditors, or becoming bankrupt or insolvent shall take the benefit of any Act that may be in force for bankrupt or insolvent debtors, the then current *quarter's* rent shall immediately become due and payable, and the said term shall immediately become forfeited and void, but the next current *quarter's* rent shall, nevertheless, be at once due and payable.

IN WITNESS WHEREOF, the said parties have hereunto set their hands and seals, the day and year first above written.

Signed, Sealed and Delivered,

IN THE PRESENCE OF

Robt. Smith.

Chris. W. Broaden.

Job Jones.

SEAL

SEAL

HOW TO WRITE ALL KINDS OF MORTGAGES. **MORTGAGE ON PERSONAL PROPERTY.**

[THE FARMERS'

This Indenture, made (in duplicate) the *Tenth* day of *May*, one thousand eight hundred and *ninety-six*, *BETWEEN John Ridd, of the Township of King, in the County of York, Farmer*, hereinafter called the Mortgagor of the First Part, and *Thomas Lennox, of the Township of Innisfil, in the County of Simcoe, Gentleman*, hereinafter called the Mortgagee of the Second Part: *WITNESSETH*, That the Mortgagor for and in consideration of *Two Hundred and Fifty* Dollars of lawful money of Canada to him in hand well and truly paid by the Mortgagee at or before the sealing and delivery of these Presents (the receipt whereof is hereby acknowledged) *Hath* granted bargained sold and assigned and by these Presents *Doth Grant* bargain sell and assign unto the Mortgagee, his executors administrators and assigns **ALL AND SINGULAR** the goods chattels furniture and household stuff hereinafter particularly mentioned and described:

One box stove, 3 hall chairs, 1 hat stand, 20 square yards of oilcloth, suite of parlor furniture containing 10 pieces, 1 Mason & Risch piano, music stand, book case and 40 volumes of books, 80 yards tapestry carpet, 2 oil paintings, 2 water color pictures, 5 steel engravings, dining room extension table and 6 chairs, 1 sideboard, 1 lounge, cooking stove, sewing machine, 4 suites bedroom furniture, 130 yards wool carpet, all which said goods and chattels are now lying and being on the premises situate on Lot Number Ten in the Third Concession of the Township of King.

TO HAVE AND TO HOLD all and singular the said goods and chattels furniture and household stuff unto the Mortgagee *his* executors administrators and assigns *To the only proper use and behoof* of the Mortgagee *his* executors administrators or assigns for ever:

PROVIDED ALWAYS and these Presents are upon this express condition that if the Mortgagor *his* executors or administrators do and shall well and truly pay or cause to be paid unto the Mortgagee *his* executors administrators or assigns the full sum of *Two Hundred and Fifty* Dollars with interest for the same at the rate of *eight* per centum per annum *in one year from the date hereof, and interest thereon payable half-yearly.*

THEN THESE PRESENTS and every matter and thing herein contained shall cease determine and be utterly void to all intents and purposes anything herein contained to the contrary thereof in anywise notwithstanding:

AND the Mortgagor for *himself* *his* executors and administrators shall and will warrant and forever defend by these Presents *all and singular* the said goods chattels and property unto the Mortgagee *his* executors administrators and assigns against *him* the Mortgagor *his* executors and administrators and against all and every other person or persons whomsoever.

AND the Mortgagor doth hereby for *himself* *his* executors and administrators ~~Commit~~ Promise and Agree to and with the Mortgagee *his* executors administrators and assigns that the Mortgagor ~~and~~ executors or administrators or some or one of them shall and will well and truly pay or cause to be paid unto the Mortgagee *his* executors administrators or assigns the said sum of money in the above proviso mentioned with interest for the same as aforesaid on the days and times and in the manner above limited for the payment thereof: *And also in case default shall be made in the payment of the said sum of money in the said proviso mentioned or of the interest thereon or any part thereof or in case the Mortgagor shall attempt to sell or dispose of or in any way part with the possession of the said goods and chattels or any of them or to remove the same or any part thereof out of the County of York* or suffer or permit the same to be seized or taken in execution without the consent of the Mortgagee *his* executors administrators or assigns to such sale removal or disposal thereof first had

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HOW TO WRITE ALL KINDS OF MORTGAGES. MORTGAGE ON PERSONAL PROPERTY.—Con.

and obtained in writing *Then* and in such case it shall and may be lawful for the Mortgagee *his* executors administrators or assigns with *his* or their servant or servants and with such other assistant or assistants as *he or they* may require at any time during the day to enter into and upon any lands tenements houses and premises wheresoever and whatsoever where the said goods and chattels or any part thereof may be and for such persons to break and force open any doors locks bars bolts fastenings hinges gates fences houses buildings and enclosures and place for the purpose of taking possession of and removing the said goods and chattels: *And* upon and from and after the taking possession of such goods and chattels as aforesaid it shall and may be lawful and the Mortgagee *his* executors administrators or assigns and each or any of them is and are hereby authorized and empowered to sell the said goods and chattels or any of them or any part thereof at public auction or private sale as to them or any of them may seem meet: *And* from and out of the proceeds of such sale in the first place to pay and reimburse *himself* or themselves all such sums and sum of money as may then be due by virtue of these Presents and all such expenses as may have been incurred by the Mortgagee *his* executors administrators or assigns in consequence of the default neglect or failure of the Mortgagor *his* executors administrators or assigns in payment of the said sum of money with interest thereon as above mentioned or in consequence of such sale or removal as above mentioned and in the next place to pay unto the Mortgagor *his* executors administrators and assigns all such surplus as may remain after such sale and after payment of all such sum or sums of money and interest thereon as may be due by virtue of these Presents at the time of such seizure and after payment of the costs charges and expenses incurred by such seizure and sale as aforesaid:

PROVIDED that the Mortgagee *his* executors, administrators or assigns may in default of payment of any of the payments of interest or instalments hereinbefore mentioned, or any part thereof, distrain for the whole principal sum then unpaid.

PROVIDED ALWAYS nevertheless that it shall not be incumbent on the Mortgagee, *his* executors, administrators or assigns to sell and dispose of the said goods and chattels but that in case of default of payment of the said sum of money with interest thereon as aforesaid it shall and may be lawful for the Mortgagee, *his* executors administrators or assigns peaceably and quietly to have hold use occupy possess and enjoy the said goods and chattels without the let molestation eviction hindrance or interruption of *him* the Mortgagor, *his* executors administrators or assigns or any of them or other person or persons whomsoever:

AND the Mortgagor doth hereby further *Covenant Promise and Agree* to and with the Mortgagee, *his* executors administrators and assigns that in case the sum of money realized under any such sale as above mentioned shall not be sufficient to pay the whole amount due at the time of such sale that the Mortgagor, *his* executors or administrators shall and will forthwith pay or cause to be paid unto the Mortgagee, *his* executors administrators and assigns all such sum or sums of money with interest thereon as may then be remaining due:

AND the Mortgagor doth put the Mortgagee in the full possession of said goods and chattels by delivering to *him* these *Presents* in the name of all the said goods and chattels at the sealing and delivery hereof:

PROVIDED that until default shall happen to be made in any way of the covenants or payment of principal or interest as aforesaid, the Mortgagor shall have peaceable and quiet possession and use of the said goods and chattels:

AND the Mortgagor *Covenants* with the Mortgagee that he will during the continuance of this Mortgage and any and every renewal thereof *Insure the Chattels* hereinbefore mentioned against loss or damage by fire in some insurance office (authorized to transact business in Canada) in the sum of not less than *Three Hundred* Dollars and will pay all premiums and moneys necessary for that purpose as the same becomes due and will on demand assign and deliver over to the said Mortgagee, *his* executors and administrators the policy or policies of insurance and receipts thereto appertaining: *Provided* that if on default of payment of said premium or sums of money by the Mortgagor the Mortgagee, *his* executors or administrators may pay the same and such sums of money shall be added to the debt hereby secured (and shall bear interest at the same rate from the day of such payment) and shall be repayable with the principal sum hereby secured.

IN WITNESS WHEREOF the parties to these Presents have hereunto set their hands and seals.

Signed, Sealed and Delivered,
IN THE PRESENCE OF

Chas. Coe.

John Pidd.

SEAL.

CHattel Mortgage.

MORTGAGE ON PERSONAL PROPERTY.—Con.

Ontario: County of York. } I, Thomas Lennox, the Mortgagee in the foregoing Bill of Sale by way of
To Wit: } Mortgage named make oath and say: That John Ridd the Mortgagor in the
 foregoing Bill of Sale by way of Mortgage named is justly and truly indebted to me, this deponent, the
 Mortgagee therein named in the sum of Two Hundred and Fifty Dollars mentioned therein. That the said
 Bill of Sale by way of Mortgage was executed in good faith and for the express purpose of securing the
 payment of the money so justly due or accruing due as aforesaid and not for the purpose of protecting the goods
 and chattels mentioned in the said Bill of Sale by way of Mortgage against the creditors of the said John Ridd
 the Mortgagor therein named or preventing the creditors of such Mortgagor from obtaining payment of any
 claim against him.

Sworn before me at the City of Toronto, in the County of York, }
 this Tenth day of May, in the year of our Lord, 1896.

J. E. HANSFORD,

A Commissioner for taking Affidavits.

THOS. LENNOX.

Ontario: County of York. } I, Chas. Coe, of the Township of King, in the County of York, Clerk,
To Wit: } make oath and say: That I was personally present and did see the within Bill
 of Sale by way of Mortgage duly signed sealed and delivered by John Ridd one of the parties thereto and that
 the name Chas. Coe set and subscribed as a witness thereof is of the proper handwriting of me this deponent
 and the same was executed at the City of Toronto, in the said County of York on the 10th day of May, 1896.

Sworn before me at the City of Toronto, in the County of York, }
 this Tenth day of May, in the year of our Lord, 1896.

J. E. HANSFORD,

A Commissioner for taking Affidavits.

CHAS. COE.

REAL ESTATE MORTGAGE.

This Indenture, made (in duplicate) the *First* day of *November*, in the year of our Lord
 one thousand eight hundred and ninety-five. In pursuance of the Act respecting Short Forms of Mortgages:
 BETWEEN *Frank Smith, of the Township of Euphrasia, in the County of*
Grey, Farmer, hereinafter called the Mortgagor, of the First Part, Mary
Jane Smith, the wife of the said Frank Smith, of the Second Part, and
Newton Henderson, of the Village of Hesherton, in the said County of Grey,
Real Estate and Insurance Agent, hereinafter called the Mortgagee, of the
Third Part, WITNESSETH: That in consideration of *Three Hundred Dollars* of lawful
 money of Canada, now paid by the said Mortgagee to the said Mortgagor (the receipt whereof is hereby
 acknowledged) the said Mortgagor *Doth Grant and Mortgage* unto the said Mortgagee *his heirs and assigns*
 forever,
 ALL AND SINGULAR that certain parcel or tract of land and premises situate lying and being in the
Township of Euphrasia, in the County of Grey, and being composed of the
East half of the South half of Lot Number Five in the Fourth Concession
of the said Township of Euphrasia, containing by admeasurement fifty acres
more or less, and the said Mary Jane Smith, the wife of the said Frank
Smith hereby bars her dower in the said lands

PROVIDED this Mortgage to be Void on payment of *Three Hundred Dollars* of lawful money of
 Canada with interest at *seven* per cent. per annum as follows: *One Hundred Dollars on the*

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First day of November, 1896, One Hundred Dollars on the First day of November, 1897, and the balance of One Hundred Dollars on the First day of November, 1898, together with interest thereon at the rate aforesaid as well after as before maturity hereof, payable half-yearly on the First days of May and November in each and every year until the whole of the said principal sum of Three Hundred Dollars shall have been fully paid and satisfied, the first of such payment of interest to be made on First day of May next, and Taxes and performance of Statute labour.

THE said Mortgagor covenants with the said Mortgagee that the Mortgagor will pay the mortgage money and interest and observe the above proviso That the Mortgagor has a good Title in fee simple to the said lands And that he has the right to convey the said lands to the said Mortgagee

AND that on default the Mortgagee shall have quiet possession of the said lands free from all incumbrances AND that the said Mortgagor will execute such further assurances of the said lands as may be requisite And that the said Mortgagor has done no act to incumber the said lands

AND that the said Mortgagor will insure the buildings on the said lands to the amount of not less than Two Hundred Dollars Currency.

AND the said Mortgagor doth Release to the said Mortgagee all his claims upon the said lands subject to the said proviso.

PROVIDED that the said Mortgagee on default of payment for two months may on one month's notice enter on and lease or sell the said lands.

PROVIDED that the Mortgagee may distrain for arrears of interest.

PROVIDED that in default of the payment of the interest hereby secured the principal hereby secured shall become payable.

PROVIDED that until default of payment the Mortgagor shall have quiet possession of the said lands.

IN WITNESS WHEREOF the said parties hereto have hereunto set their hands and seals.

Signed Sealed and Delivered

IN THE PRESENCE OF

Jos. Blackburn.

Frank Smith.

SEAL

Mary J. Smith.

SEAL

County of Grey, } *I, Joseph Blackburn, of the Village of Flesherston, in the County of Grey, Merchant, make To Wit: } oath and say:*

- 1. That I was personally present and did see the within instrument and duplicate thereof duly signed sealed and executed by Frank Smith and Mary Jane Smith his wife, two of the parties thereto.*
- 2. That the said instrument and duplicate were executed at the said Village of Flesherston.*
- 3. That I know the said parties.*
- 4. That I am a subscribing witness to the said instrument and duplicate.*

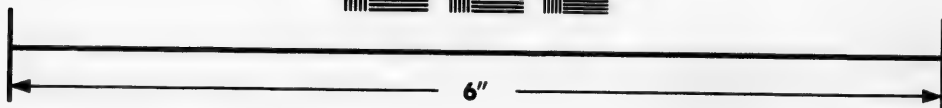
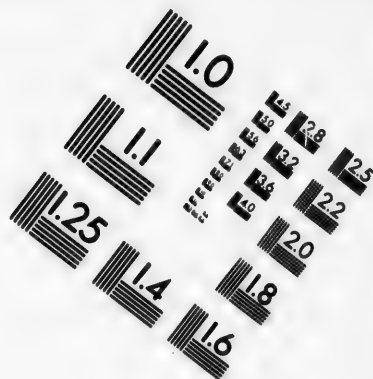
Sworn before me at the Village of Flesherston, in the County of Grey, this 1st day of November, in the year of our Lord 1895.

W. J. BELLAMY,

A Commissioner for taking Affidavits in H. C. J., &c.

JOS. BLACKBURN.





Photographic Sciences Corporation

**23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503**





A FARM HOME.

LAND CONTRACT.

Articles of Agreement, made (in duplicate) this First day of June A.D. 1896; *BETWEEN* John Dixon of the City of Toronto in the County of York and Province of Ontario, Builder, (the Vendor) of the First Part, and Hugh Grant of the said City of Toronto, Merchant, (the Purchaser) of the Second Part:

WITNESSETH that the vendor for himself his heirs, executors and administrators agrees to sell to the purchaser his heirs, executors, administrators and assigns and the purchaser for himself his heirs, executors and administrators agrees to purchase from the vendor his heirs, executors, administrators and assigns that certain property known as No. 212 Carlton Street in the said City of Toronto and described as Lot Number 6 on the North side of Carlton Street according to Plan D 190, together with the appurtenances, subject to an existing Mortgage of \$3,500.00 becoming due in about two years from date hereof and bearing interest at 6 per cent., for the price of \$6,000.00, payable, \$100.00 upon the signing of this agreement, by assuming the said Mortgage of \$3,500.00 as part of the said consideration, the further sum of \$900.00 in 30 days from date hereof and the balance of \$1,500.00 shall be secured by a Statutory Mortgage on said premises payable in three equal consecutive annual instalments of \$500.00 each bearing interest at 7 per cent.; on the following terms: The purchaser shall examine the title at his own expense; shall not require the production of any abstract of title, title deeds or evidences of title not in the possession of the vendor; shall state his objections, if any, thereto in writing to the vendor or his solicitor within ten days, otherwise the title shall be deemed to have been accepted; if any valid objection be made which the vendor may be unable or unwilling to satisfy, he may cancel this agreement by notifying the purchaser in writing to that effect and thereupon shall return all moneys paid on account hereof without interest; the vendor shall prepare and tender the Deed of Conveyance at his own expense and the Mortgage shall be prepared by and at the expense of the purchaser; all taxes, rates, interest, insurance and rent shall be adjusted to the date hereof and thereafter assumed by the purchaser. This Agreement shall be performed within 30 days from date and Time shall be strictly of its essence. In Testimony whereof the said parties have hereto set their hands and seals.

Witness:

J. E. Hansford,

Solicitor, Toronto.

John Dixon.

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Hugh Grant.

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Sworn before me
this Fifth day

QUIT CLAIM DEED.

This Indenture, made (in duplicate) the *Third* day of *June* in the year of our Lord one thousand eight hundred and *ninety-six*, **BETWEEN** *William Wells of the Township of East Terra in the County of Oxford in the Province of Ontario, Farmer, of the First Part, Rose Wells the wife of the said William Wells of the Second Part, and Thomas Dunn of the Township of Wilmot in the County of Waterloo, Gentleman, of the Third Part,*

WITNESSETH that the said

party of the first part for and in consideration of *One Dollar* of lawful money of Canada to him in hand paid by the said party of the *third* part at or before the sealing and delivery of these presents (the receipt whereof is hereby acknowledged). Hath granted released and quitted claim and by these presents, *Doth Grant Release and Quit Claim* unto the said party of the *third* part *his* heirs and assigns forever *All* the Estate Right Title Interest claim and demand whatsoever both at law and in equity or otherwise howsoever and whether in possession or expectancy of *him* the said party of the first part of in to or out of *All* and Singular that certain parcel or tract of land and premises situate lying and being in the *Township of East Terra in the County of Oxford and Province of Ontario and being composed of the East half of Lot Number Six in the fifteenth Concession of the said Township of East Terra containing by admeasurement one hundred acres more or less.*

TOGETHER with the appurtenances thereto belonging or appertaining.

TO HAVE AND TO HOLD the aforesaid land and premises with all and singular the appurtenances thereto belonging or appertaining unto and to the use of the said party of the *third* part *his* heirs and assigns forever.

SUBJECT NEVERTHELESS to the reservations limitations provisoes and conditions expressed in the original grant thereof from the Crown. *And the said Rose Wells the wife of the said William Wells hereby bars her dower in the said land.*

IN WITNESS whereof the said parties to these presents have hereunto set their hands and seals.

Signed, Sealed and Delivered,
IN THE PRESENCE OF

Wm. F. Hansford.

Wm. Wells.

Rose Wells.

SEAL

SEAL

County of Oxford.

I, William Francis Hansford of the Town of Woodstock in the County of Oxford,
To Wit: Banker, make oath and say:

1. *That I was personally present and did see the within Instrument and Duplicate thereof duly signed sealed and executed by William Wells and Rose Wells two of the parties thereto.*
2. *That the said Instrument and Duplicate were executed at the said Town of Woodstock.*
3. *That I know the said parties.*
4. *That I am a subscribing witness to the said Instrument and Duplicate.*

Sworn before me at the Town of Woodstock in the County of Oxford
this Fifth day of June in the year of our Lord 1896.

A. E. BURK,

WM. F. HANSFORD.

A Commissioner for taking Affidavits.

SEAL

SEAL

This Indenture, made (in duplicate) the *Eighteenth* day of *September*, one thousand eight hundred and *ninety-five*, in Pursuance of the Act respecting *Short Forms of Conveyances*: **BETWEEN** *David John Wallace of the Township of Scarborough in the County of York and Province of Ontario, Gentleman, of the First Part, Maud Wallace, the wife of the said David John Wallace, of the Second Part, and George Gill of the Township of Cavan in the County of Durham and Province of Ontario, Farmer, of the Third Part, WITNESSETH*: That in consideration of the sum of *Three Thousand Five Hundred* Dollars of lawful money of Canada now paid by the said party of the *third* part to the said party of the first part (the receipt whereof is hereby by *him* acknowledged) he the said party of the first part *Doth Grant* unto the said party of the *third* part in fee simple **ALL AND SINGULAR** that certain parcel or tract of land and premises situate lying and being in the *Township of Cavan in the County of Durham and Province of Ontario, and being composed of Lot Number Seventeen in the Fourth Concession of the said Township of Cavan, containing by admeasurement one hundred acres of land more or less.*

TO HAVE AND TO HOLD unto the said party of the *third* part *his* heirs and assigns, to and for his and their sole and only use for ever, *subject nevertheless to the reservations limitations provisoes and conditions expressed in the Original Grant thereof from the Crown,* **THE** said party of the first part *Covenants* with the said party of the *third* part, That he has the right to convey the said lands to the said party of the *third* part notwithstanding any act of the said party of the first part.

AND that the said party of the *third* part shall have quiet possession of the said *free* from all encumbrances.

AND the said party of the first part *Covenants* with the said party of the *third* part, That he will execute such further assurances of the said lands as may be requisite.

AND the said party of the first part *Covenants* with the said party of the *third* part, That he has done no act to incumber the said lands.

AND the said party of the first part *Releases* to the said party of the *third* part all *his* claims upon the said lands.

And the said Maud Wallace, the wife of the said David John Wallace, hereby bars her dower in the said lands.

IN WITNESS WHEREOF the said parties hereto have hereunto set their hands and seals.
Signed Sealed and Delivered

IN THE PRESENCE OF

L. Long.

David J. Wallace.

SEAL.

Maud Wallace.

SEAL.

County of Durham, } *I, Lawrence Long, of the Village of Millbrook, in the County of Durham, Clerk, make To Wit:* } oath and say:

1. *That I was personally present and did see the within instrument and duplicate thereof duly signed sealed and executed by David John Wallace and Maud Wallace, two of the parties thereto.*
2. *That the said instrument and duplicate were executed at the said Village of Millbrook.*
3. *That I know the said parties.*
4. *That I am a subscribing witness to the said instrument and duplicate.*

Sworn before me at the Village of Millbrook, in the County of Durham, this nineteenth day of September, in the year of our Lord 1895.

BENJ. BRICK,

A Commissioner, &c.

L. LONG.

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BILL OF SALE.

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This Indenture, made the *Tenth* day of *December* in the year of our Lord one thousand eight hundred and *ninety-five*, *BETWEEN* Andrew Smith of the Town of Pembroke in the County of Pienfrew, Merchant, of the First Part, and John Ridd of the Township of Ross in the said County of Pienfrew, Farmer, of the Second Part; *WHEREAS* the said party of the First Part is possessed of the goods, chattels and effects hereinafter set forth, described and enumerated, and hath contracted and agreed with the said party of the Second Part for the absolute Sale to *him* of the same, for the sum of *Two Hundred Dollars*.

NOW THIS INDENTURE WITNESSETH, that in pursuance of the said Agreement, and in consideration of the sum of *Two Hundred Dollars* of lawful money of Canada, paid by the said party of the Second Part to the said party of the First Part at or before the sealing and delivery of these Presents (the receipt whereof is hereby by *him* acknowledged) *he* the said party of the First Part *Hath Bargained*, sold, assigned, transferred, and set over, and by these Presents *Doth Bargain*, sell, assign, transfer and set over unto the said party of the Second Part, *his* executors, administrators and assigns,

ALL THOSE the said goods, chattels and effects described as follows: *1* waggon, *2* ploughs, *2* sets of harness, *1* Singer sewing machine, *1* suite of parlor furniture consisting of *10* pieces, and *1* Mason & Risch Organ, all which said goods, chattels and effects are contained in a dwelling house situate and being on *Lot 10* in the *Third Concession* of the Township of Horton in the said County of Pienfrew,

AND all the right, title, interest, property, claim and demand whatsoever, both at Law and in Equity or otherwise howsoever, of *him* the said party of the First Part, in, to and out of the same, and every part thereof: *TO HAVE AND TO HOLD* the said hereinbefore assigned goods, chattels and effects and every of them and every part thereof, with the appurtenances and all the right, title and interest of the said party of the First Part thereto and therein as aforesaid, unto and to the use of *the said party of the Second Part his* executors, administrators and assigns, to and for *his and their* sole and only use for ever:

AND the said party of the First Part *Doth* hereby, for *himself*, his heirs, executors and administrators, *Covenant, Promise and Agree* with the said party of the Second Part, *his* executors and administrators, in manner following, that is to say: *That he* the said party of the First Part *is* now rightly and absolutely possessed of and entitled to the said hereby assigned goods, chattels and effects and every of them

AND that the said party of the First Part now hath in *himself* good right to assign the same unto the said party of the Second Part, *his* executors, administrators and assigns, in manner aforesaid, and according to the true intent and meaning of these Presents: *AND* that the said party hereto of the Second Part, *his* executors, administrators and assigns, shall and may from time to time, and at all times hereafter, peaceably and quietly have, hold, possess and enjoy the said hereby assigned goods, chattels and effects and every of them and every part thereof, to and for *his and their* own use and benefit, without any manner of hindrance, interruption, molestation, claim or demand whatsoever of, from or by *him* the said party of the First Part, or any person or persons whomsoever.

AND that free and clear, and freely and absolutely released and discharged, or otherwise, at the costs of the said party of the First Part, effectually indemnified from and against all former and other bargains, sales, gifts, grants, titles, charges and encumbrances whatsoever.

AND moreover, that *he* the said party of the First Part, and all persons rightfully claiming or to claim any

estate, right, title or interest of, in, or to the said hereby assigned *goods, chattels and effects* and every of them, and every part thereof, shall and will from time to time and at all times hereafter, upon every reasonable request of the said party of the Second Part, *his* executors, administrators or assigns, but at the cost and charges of the said party of the Second Part, make, do and execute, or cause or procure to be made, done and executed, all such further acts, deeds and assurances of the same for the more effectually assigning and assuring the said hereby assigned *goods, chattels and effects* unto the said party of the Second Part, *his* executors, administrators or assigns, in manner aforesaid, and according to the true intent and meaning of these presents as by the said party of the Second Part, his executors, administrators or assigns, or his or their Counsel in the law shall be reasonably advised or required.

IN WITNESS WHEREOF, the said parties to these Presents have hereunto set their hands and seals the day and year first above written.

Signed, Sealed and Delivered,

IN THE PRESENCE OF

H. Chamberlain.

Andrew Smith.

SEAL.

Ontario: County of Renfrew, } I, John Ridd the party of the Second Part or Bargainee in the foregoing Bill of
To Wit: } Sale named, make oath and say: That the sale therein made is *bona fide*, and for
good consideration, namely: Two hundred dollars and not for the purpose of holding or enabling me this
deponent to hold the goods mentioned therein against the creditors of the said ANDREW SMITH.
Sworn before me at the Town of Pembroke, in the County of Renfrew, }
this Eleventh day of December, in the year of our Lord, 1895.

JOHN RIDD.

LENNOX IRVING,

A Commissioner for taking Affidavits.

The attesting witness should make an affidavit of execution similar to that of a Chattel Mortgage on page 90.

THE LAST WILL AND TESTAMENT.

This is the Last Will and Testament of me Samuel Smith of the Township of Nepean in the County of Carleton and Province of Ontario, Retired Farmer.

I hereby revoke all former wills and testamentary dispositions by me at any time heretofore made and declare this to be and contain my last will and testament.

I hereby appoint my wife Mary Smith and my eldest son James S. Smith to be the Executors and Trustees of this my will.

I direct my Executors to pay all my just debts, funeral and testamentary expenses as soon as conveniently may be done after my decease.

I bequeath my gold watch and chain to my said son James S. Smith.

I bequeath my piano to my daughter Jane Smith.

I bequeath the sum \$3,000 to Mary Smith my wife, and \$1,000 to my said son James S. Smith and \$1,000 to my son William Smith and \$1,000 to my daughter Jane Smith.

I devise and bequeath to Mary Smith, my wife, my farm of 160 acres on which I now reside in the Township of Nepean together with the use and enjoyment of the house and the furniture and household effects therein contained during the term of her natural life or until she shall marry again, and upon her decease or marriage I direct that the same shall be sold and proceeds equally divided between my sons and daughter.

I devise and bequeath all the rest and residue of my real and personal property to my Executors upon trust to convert the same into money and to invest the proceeds in any investments authorized by law for trust funds and out of the income arising therefrom to pay Mary Smith, my wife, the sum of \$500 yearly in quarterly payments of \$125 each, and upon the decease or marriage of my said wife Mary Smith to divide the same equally between my sons and daughter.

In Testimony whereof I have hereby set my hand this Eighteenth day of November, 1895.

Signed, Published and Declared by Samuel Smith, the Testator, as and for his last will and testament in the presence of us both present at the same time who at his request and in his presence have hereunto subscribed our names as witnesses.

J. E. HANSFORD, Solicitor, etc., Toronto.

GEO. HURDMAN, Merchant, Ottawa.

SAMUEL SMITH.

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LAW WITHOUT LAWYERS.

A COMPLETE COMPENDIUM OF Legal and Business Instructions.

1. The Writer's Purpose.—It is not the purpose of the writer to make any man learned in the law. It were idle, and worthy only of a catch-penny mountebank, to pretend that in a volume like this could be compressed the whole of a great science which demands of its professors years of toil and many years of study and experience. Once involved in litigation, go to a lawyer, and to the best lawyer that you can afford. Any one who gives the reader different advice is unwise or knavish, and common-sense must recognize this indictment. However, an ounce of prevention is worth a pound of cure, and we verily believe that in this manual many ounces of prevention will be found. Law is a costly luxury that should only be indulged in as a last resort, when justice cannot be gained by less expensive means. The wise man avoids it as he would avoid bankruptcy or fire, and he takes all the prudent precautions that he can to escape litigation. We claim that the reader of these pages will be fully equipped for that purpose.

2. Do Nothing Blindly.—No matter what transaction you are about to engage in, study the forms we give, read the hints we publish. Do nothing blindly. In no case is knowledge power so much as in business law. Who are the men that succeed? They are those who understand it. Which of your friends is tangled up in costly, perhaps ruinous, litigation? Ask him how it began, and he will point out to you some trifling error, made in a culpable

ignorance, which, had he the lessons we teach before him, he would have avoided. Then study these pages if you would gain the benefit that lies before you. A half-hour's attention before a transaction is consummated may save you thousands afterwards. The diligent farmer may be sure of one thing, that, with this manual in command, its hints obeyed, its instructions followed, its forms used, it will take a very much better lawyer than an average business man to force him into a law suit, and yet his rights will be as thoroughly secure as though they had been vindicated and asserted by all the courts of the Dominion.

3. What is Law?—Law is a rule of action, or in other words, it is a direction from the governing power of the country telling us what we must or must not do.

4. Its Necessity.—Until the millennium begins, men will not be able to exist without courts, law and lawyers. Erring humanity will never attain perfection. Our law does not claim to be perfect nor is it perfectly administered, but the whole world admits that the English speaking people have the best laws known to man.

5. Sources of Law.—The Law-making power and other sources of law are: First, Common law; second, Decision of courts of justice; third, Statutes of the Dominion; fourth, Statutes of the Province; fifth, Municipal and local laws.

6. **Business Law.**—The Statutes and the Common Law are most used in connection with business matters.

7. **The Common Law.**—The Common Law consists largely of unwritten rules and law, and not enacted one by one by representative bodies, but established long ago in England, by long custom and usage, and adopted by the different Provinces as a body of law. The Statutes of the Province or of the Dominion are of higher authority than the Common Law, and the Common Law must always give way to the Statutory whenever there is a confliction.

8. **Criminal Law.**—Our Criminal Law has been built upon the theory that the accused is presumed to be innocent until he is regularly proved guilty and must be protected in the meantime. It is for his protection that the Statutes run. At first the only punishment that men knew was death or maiming. In the middle ages thieves were boiled in oil, and robbers were impaled alive. Witnesses were questioned on the rack, and evidence extorted with thumbscrew and the iron boot, crushing the flesh in search for truth. As the years rolled by all of this was ameliorated, and to-day justice is tempered with mercy, and the shameful barbarisms of the courts of the middle ages are becoming rarer and rarer.

9. **Taxes.**—The rate for the year is fixed by the council of each municipal corporation, and lands are charged therewith. Lands in Ontario may be sold for taxes where they are in arrears for three years and the owners may redeem the same within one year after sale by paying all arrears, costs and ten per cent. additional. Lands in Manitoba may be sold for taxes when in arrear for one year and may be redeemed within two years after sale on payment of arrears, costs and ten per cent. if redeemed within one year, or twenty per cent. if not redeemed until after one year from sale.

Lands in New Brunswick and Nova Scotia may be sold for taxes if in arrear for three years.

10. **Ignorance of the Law.**—It is a universal rule that the ignorance of the law excuses no one (no one can go into court and claim his ignorance as a sufficient defence). The laws are supposed to be common property and are supposed to be understood, and any violation, ignorantly or intentionally whatever the case may be, must be punished according to the terms of law.

11. **Municipal Law.**—Municipal Law is, therefore, "a rule of civil conduct prescribed by the supreme power of a Province, commanding what is right and prohibiting what is wrong."

12. **Municipal Councils.**—The council of every county shall consist of the reeves and deputy-reeves of the townships and villages within the county, and of any townships within the county which have not withdrawn from the jurisdiction of the council of the county, and one of the reeves or deputy-reeves shall be warden.

(a) The council of every incorporated village shall consist of one reeve, who shall be the head thereof, and four councillors, and if the village had the names of 500 persons entitled to vote at municipal elections on the last revised voters' list, then of a reeve, deputy-reeve and three councillors, and for every additional 500 names of persons entitled to vote on such list there shall be elected an additional deputy-reeve instead of a councillor.

(b) The council of every township shall consist of a reeve, who shall be the head thereof, and four councillors, one councillor being elected for each ward, where the township is divided into wards, and the reeve to be elected by a general vote; but if the township had the names of 500 persons entitled to vote at municipal elections on the last revised voters' list, then the council shall consist of a reeve, deputy-reeve and three councillors, and for every 500 additional names of persons entitled to vote on such list, there shall be elected an additional deputy-reeve instead of a councillor.

13. **Power of Township Councils.**—By the Provisions of the Statutes of Ontario, power is given to Township Councils to pass By-laws for certain purposes. Each Township therefore makes certain laws which govern its local affairs. Some Townships are in advance of others and hence no definite code of law will apply to all. In some Townships the most important By-laws are printed in pamphlet form and can be had from the Township Clerk.

14. **Rights and Wrongs.**—The subjects of Civil Law are Rights and Wrongs; and these are divided into two classes, private and public.

It is the duty of the constituted government to defend rights and redress wrongs, whether they are public or private.

15. **Civil Injury.**—The wrong done to an individual, as the breaking of a contract, is called a Civil Injury. A wrong done to the Province for which the law prescribes a punishment, is called a Crime or Misdemeanor.

16. **Plaintiff and Defendant.**—When one seeks redress through the courts, he is said to "bring a suit," and is called "The Plaintiff." The party against whom a suit is brought is called "The Defendant."

He who seeks redress for a wrong suffered must himself be innocent.

17. **Ownership of Land.**—A man who owns land owns all that is above or below it and if a tree on adjoining land grows so as to spread over his land he may cut away the parts that so come over. The owner of the tree may enter peaceably and gather the fruit or branches which fall on another's land.

18. **Rights of Married Women.**—In Ontario a married woman may acquire, hold, sell, or dispose by will all kinds of property as if she were unmarried. She may contract

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21. **Law.** that a contract Law, any person days to return person, except railway ticket Canada, and a penalty not dollars, and exceeding nine both penalty Justice.

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21. **Law on Railway Tickets.**—The ticket is evidence that a contract has been made, and according to Canadian Law, any person buying a return ticket usually has thirty days to return except on special excursion tickets. No person, except authorized agents, shall offer for sale any railway ticket or part of a ticket, for use on any railway in Canada, and any person guilty of such offence is liable to a penalty not exceeding fifty dollars, nor less than twenty dollars, and costs, or to imprisonment for a term not exceeding ninety days and not less than ten days or to both penalty and imprisonment in the discretion of the Justice.

(d) **Special Delivery Letters in Cities, 10 cents.**

Whenever writing either with a pen, pencil or typewriter is enclosed in an envelope, full letter rate postage must be attached, no matter whether the envelope is sealed or left open. Otherwise, double the deficiency is collected on delivery.

25. Ontario Markets.—No market fee shall be imposed or collected upon wheat, barley, rye, corn, oats or other grain, or seed, wood, lumber, cordwood, dressed hogs, cheese, hay or straw. No market fee shall be imposed on butter, eggs or poultry, unless a proper market place shall be provided by the municipality, nor shall any fee be charged on articles delivered directly in pursuance of a prior contract, nor when articles are brought into the municipality after 10 o'clock a.m. and not offered for sale at a market place.

No person who has paid the market fee shall be compelled to remain on the market, but may sell his articles elsewhere after 9 o'clock a.m. between April 1st and November 1st, nor after 10 a.m. between 1st November and 1st April.

The market fees which may be charged on articles upon which fees may be imposed are: Articles drawn to market by two horses, ten cents; by one horse, five cents; brought by hand, two cents; every horse, mare or gelding, ten cents; head of horned cattle, five cents; sheep, calf or swine, two cents.

Fees for weighing or measuring a load of hay, fifteen cents; slaughtered meat, grain, or other articles exposed for sale, under 100 pounds, two cents; between 100 and 1000 pounds, five cents; over 1000 pounds, ten cents; live animals (not sheep or pigs), three cents per head; sheep or pigs if more than five, one cent per head; if less than five, four cents for the lot; and five cents for measuring a load of wood.

26. Ditches and Watercourses.—(*Ontario*).—A ditch means a drain open or covered wholly or in part and whether in the channel of a natural stream, creek or watercourse or not. Ditches shall be continued to a sufficient outlet but shall not pass through or into more than seven township lots without the consent by resolution of the municipal council upon the petition of two-thirds of the owners of lands affected thereby, nor shall such ditch cost more than \$100.00.

(a) Every council should appoint an engineer by law and provide for his remuneration and fees for the clerk.

The owners of lands within 75 rods from the sides and point of commencement of the ditch are liable for the costs of construction. But lands through or into which the ditch does not pass and which also adjoin a road allowance traversed by the ditch are not liable except where directly benefited, then only for the direct benefit. The council of any county East of Frontenac may extend the distance to 100 rods.

(b) Any owner of land requiring a ditch shall first file with the municipal clerk a declaration of ownership and then notify the owners of other lands affected and, if possible, make an agreement for all necessary arrangements. In case no agreement can be made within five days of meeting a requisition giving full particulars should be filed with the clerk, who shall forthwith send a copy to the engineer appointed by the council, who shall appoint a time between ten and sixteen days thereafter, and a place to attend, discuss and investigate the matter. The clerk must notify the owner requiring the ditch and he must notify all interested parties of the meeting with the engineer. The engineer examines the locality and witnesses

and within thirty days files a written award containing full details of the work. An appeal therefrom may be made within fifteen days from the filing thereof to the County Judge, who shall hear and determine the appeal within two months.

These provisions apply also to deepening, widening and covering an existing ditch.

(c) All municipalities are in duty bound to keep printed copies of all necessary forms which may be obtained on application to the clerk.

When one man floods another's lands, he can take action at law for damages and may obtain an injunction to abate the nuisance.

27. Law on Line Fences.—(*Ontario*).—Owners of occupied adjoining lands shall make, keep up and repair a just proportion of the fence which marks, or is to mark, the boundary between them. Owners of unoccupied lands shall, upon their being occupied, become liable to the same duties.

(a) In case of dispute of such proportion, either owner may notify the other owner, or the occupant of the land of the other owner, that he will, not less than one week from the service of such notice, cause three fence-viewers of the locality to arbitrate on the matter. He shall also notify the fence-viewers not less than one week before their services are required. Both notices shall be in writing, signed by the person notifying, shall state the time and place for arbitration, and may be served on the person himself or by leaving it at the place of abode of such owner, or occupant, with some grown-up person residing thereat, or in case the lands be untenanted, with any agent of such owner. The occupant receiving such notice shall immediately notify the owner, or he may become liable for all damages caused by his neglecting to do so. If the owners notified object to any or all of the fence-viewers within a week, and cannot agree on them, the Division Court Judge shall name the fence-viewers.

(b) The fence-viewers shall examine the premises, and, if required, shall hear evidence and examine witnesses on oath. They shall make an award in writing, signed by any two of them, specifying the locality, quantity, description and lowest price of the fence to be made, the time for performing the work, and the proportion of costs to be paid by each owner. Regard shall be had to the nature of the fences used in the locality, the circumstances of the owners, and the suitability of the fence to the wants of the parties. A Provincial Land Surveyor may be employed to make an exact description of the locality. The award shall be deposited with the Township Clerk, and, if registered in the Registry Office, shall constitute a lien upon the lands charged. A dissatisfied party may appeal to the County Court Judge on serving a written notice upon the fence-viewers, Division Court Clerk and all interested parties within one week after receiving notice of the award. Any written agreement between owners respecting such line fence may be registered and enforced as if it was award of fence-viewers.

(c) The owners of a line fence which partly encloses the occupied land of another person, shall not remove any part thereof unless the owner or occupier of such adjacent enclosure refuses to pay therefor his just proportion after written demand without giving at least six months' previous notice.

Each fence-viewer shall be paid two dollars per day, and the Judge his actual expenses.

Height of fences at the discretion of the Township Council, fixed by By-law, varying in localities from 4½ to 5 feet.

The old elections un- Parliament, practice.

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Nova Scotia Q the value of \$50, Sons of property ow and it is sufficient to \$250. (d) Fishermen riding to the value of

Ontario Qualific who have resided in district three months

VOTING IN CANADA—QUALIFICATIONS.

The old method of "open voting" continued in vogue for all elections until 1874, when the Ballot Act was passed by the Dominion Parliament. Since then "secret voting" has generally come into practice.

Qualifications.—General.—All voters must be British subjects, and of the full age of twenty-one years. Their names must have been duly entered upon the lists required for the several elections. No person who is insane, an idiot, a convict in prison, or otherwise disqualified by law, can vote. Women do not vote for members of either the Dominion Parliament or Provincial Legislatures, except in Nova Scotia, as noted.

Dominion Elections.—Members of Dominion Parliament are elected in the different provinces by voters upon the same qualifications as are the members for the Provincial House in the different provinces. Manhood suffrage most generally prevails throughout the Dominion.

Provincial Elections.—The qualifications for voting at the elections for members of the Legislatures are fixed by the Legislatures themselves, and vary in the several provinces.

British Columbia Qualification.—Being permanent residents in electoral districts two months, immediately previous to applying for privilege to vote. A person desiring to vote must send in an application in writing to the collector of the electoral districts, or polling division, in which the applicant resides.

Manitoba.—Registration.—(1) A person that has been within the province one year, but not in the present electoral district for three months, shall be entitled to register and vote in the Electoral Division wherein he was domiciled for said three months.

(2) Temporary absence does not disqualify, but a voter must in which he makes his home or sleeps, though he works in another electoral division.

(3) **Who Cannot Vote.**—(a) Judges of Queen's Bench and of the County Courts.

(b) Persons guilty of corrupt practices at elections, or inmates confined in any public institutions.

(c) All officials and employees of the Government receiving fees to the amount of \$350 per annum, and upwards; this does not apply however, to members of parliament.

New Brunswick Qualification.—Real Estate.—Voter must own real estate to the value of \$100, or real and other property together amounting to \$400, or he shall be assessed upon income to the amount of \$400.

(2) Ministers of all Christian Churches, must be a resident of the same district for one year next preceding May first of that year in which the list is made up. It is provided, however, that mechanics, lumbermen, mariners, fishermen and students (attending institutions of learning in Canada), shall not be disqualified by temporary absence, but such are not entitled to vote where they are temporarily located.

Not Entitled to Vote.—Judges of Supreme Court, or Sheriff in County in which he holds office, except in case of a tie, in that case he has the casting vote.

North-West Territories Qualification.—For voting in North-West Territories to all intents and purposes are essentially the same as the qualifications in Manitoba.

Nova Scotia Qualification.—(a) Assessment on real estate of the value of \$150, or personal property to the value of \$300. (b) Sons of property owners, or widows, if they reside on the property, and it is sufficient to qualify them as above. (c) Annual income of \$250. (d) Fishermen having boats and fishing property within the riding to the value of \$150.

Ontario Qualification.—All male subjects over 21 years of age who have resided in the province 12 months and in one electoral district three months, immediately preceding first day of sitting of

Registrars. Students and others temporarily absent from home in towns and cities for three months, vote in electoral division in which they have resided permanently thirty days of said three months.

Prince Edward Island Qualification.—Residents must have performed Statute Labor or paid Poll Tax for preceding year on real estate to the value of \$6 on which all taxes have been paid.

Quebec Qualifications.—(1) Owners of real property to the amount of \$300 in any city, \$200 in any other municipality, or \$20 in the annual value.

(2) **Tenants** in good faith paying an annual rent of not less than \$30 in any city, or at least \$20 in any other municipality, but the property rented must be worth \$300 in cities, or \$200 in other municipalities.

(3) **Teachers** in an institution under contract of school commissions or trustees.

(4) **Rentier** one who is receiving at least \$100 per annum as rent of property. Retired farmers, etc.

(5) **Farmers'** sons who have been working on same farm belonging to father or mother for at least one year, providing the value of farm warrants it, when divided as outlined in section two.

(6) **Fishermen** owning at least \$150 worth of property in boats or other fishing tackle.

(7) **Priests, Missionaries and Ministers** of all denominations who have resided in municipality permanently five months.

(8) **Salary.**—Any male of age drawing a salary of at least \$300 per annum, who has resided at least one year in the same electoral district.

Who Cannot Vote.—(1) **Corporations.**—No member of a corporation is entitled to vote on real estate owned by the corporation.

(2) **Judges, District Magistrates and Recorders, Clerks of Crown, Clerks of Peace, Sheriffs, Registrars, Crown Lands and Crown Timber Agents, Collectors of Revenue, Members of Provincial Police Force, nor Contractors** who have contracts with the Dominion or Provincial Government.

Disqualified.—In all the provinces, Dominion officials are not competent to vote. In *British Columbia*, Indians and Chinese are debarred from voting. In *Manitoba*, Indians, and persons of Indian blood in receipt of annuities or treaty gifts from the Government cannot vote.

Municipal Elections.—The qualifications for voting at municipal and school elections are determined by the Municipal and Educational Acts of the Provincial Legislatures.

Municipal Councils.—Those entitled to vote at the election of members of these councils must be British subjects and ratepayers in the municipality, as freeholders, householders, tenants, or having an income of a stated amount. Widows and unmarried women are eligible to vote in Ontario and Nova Scotia, while in Manitoba and British Columbia the right to vote belongs to any woman who is assessed in her own name.

In Ontario Qualifications.—**Freeholders or Tenants** of a period of not less than one month before elections.

Income of not less than \$400 for past 12 months.

Amount of property in Townships and Villages....	\$100.
Towns of a population of 3,000.....	\$200.
Towns of a population of over 3,000.....	\$300.
Cities	\$400.

Boards of Trustees of Public and Separate Schools.—In these elections, also, the ratepayers who are on the voters' lists are entitled to vote, according to whether they are public or separate school supporters, respectively. Generally, it is required that a ratepayer shall not be in default as to payment of school rates. In Ontario an alien, who is a resident ratepayer, may vote at these elections.

CANADIAN HOMESTEADS.

The land available for this purpose consists of the ungranted lands of the Old Provinces, which are under provincial control, and those of Manitoba and the North-West Territories, administered by the Dominion Government.

1. Provincial Lands.—These lands are surveyed, and may be appropriated for settlement by applicants, if a single man over eighteen years of age, or by any person, male or female, who is sole head of a family. Of the provincial lands, the limit is: to the single man, one hundred acres; to the head of a family, two hundred acres, with the privilege of purchasing an additional one hundred at fifty cents per acre. In all the provinces full particulars as to settlement duties may be obtained by addressing the Crown Lands Department of the province in which a homestead is desired.

2. Dominion Lands.—The method of survey of these lands is the same as that pursued with regard to the new States and Territories of the United States, shown in Diagrams Nos. 1 and 2. The only difference for the reader to note is that the numbering of Canadian sections is the reverse of that shown in Diagram No. 2. In Canada the numbering *commences* at the south-east corner, and *ends* at the north-east corner. The same rule applies to the quarter sections, as shown in Diagram No. 3. The Dominion

lands are classified, in each township, as *even-numbered* and *odd-numbered* sections. Of the *former* those numbered 8 and 26 are allotted to the Hudson Bay Company, and of the *latter* lots 11 and 29 are reserved for school purposes. Excepting these numbers, the other even-numbered sections are open for *homestead* entry, and the other odd-numbered sections are for *sale*, unless granted by Government to aid colonization railways. Applicants must be of the age mentioned for provincial lands. On making application to the Local Dominion Land Agent of the district, and paying a fee of ten dollars, the applicant may obtain a homestead entry for a quarter-section, or 160 acres. He has three years in which to complete his settlement duties of residence and cultivation. In that time he must have cropped twenty-five acres, and prepared fifteen more for the fourth year. Having fulfilled his three years, the Crown will issue to him a patent for the land. Homestead rights may be conveyed by will or otherwise, but all duties must be fulfilled.

The privilege of homestead entry only applies to agricultural lands. Any one desiring to make such entry may apply either personally to the Dominion Land Agent of the district, or, if at a distance, by letter, to the Commissioner of Dominion Lands, at Winnipeg.

HOW LAND IS SURVEYED.

1. The Counties and Townships of Ontario are of various sizes and different shapes, and have been surveyed according to several systems. The greater part of those Townships, which were laid out and surveyed before the year 1818, were divided into concessions or ranges of single front Lots. Each Lot has a frontage of 20 chains by a depth of 100 chains, and contains 200 acres. There was an allowance for road at the front of every concession and every fifth and sixth Lot. Those parts surveyed between the years 1818 and 1829 were usually laid out in double front Lots of 200 acres each.

The newer parts of this Province have been surveyed according to other systems. In some the regular farm Lots are 20 chains in width by 50 chains in depth, and contain 100 acres each. There is an allowance for road of one chain in width between each alternate concession and every fifth and sixth Lot. Other surveys divide the country into square Townships, six miles on each side, which are sub-divided into 36 sections of 640 acres, or one square mile each, and are numbered from the North-East angle. There are no road allowances staked off, but 5 per cent. of the area is reserved for roads. According to the system

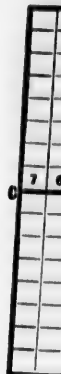
now generally adopted, the townships are divided so as to contain 6 concessions with 12 lots of 320 acres each.

Land is commonly measured by a chain called Gunter's Chain, which is 4 poles, or 22 rods, or 66 feet long, and composed of 100 equal parts called links, each link being $7\frac{9}{100}$ inches. The acre consists of 10 square chains, or 100,000 square links. The statute pole, perch or rod is $16\frac{1}{2}$ feet long. There are 80 chains in a mile, and 640 acres in a square mile.

2. Townships.—The land is first divided into squares by lines, six miles apart. These squares are called *townships*, and a row of townships running north and south is called a *range*. Townships are given proper names, but for the purpose of location they are designated by numbers.

3. Principal Meridians and Base Lines.—First the surveyors select some prominent object or point, and drawing a straight line, north and south, through this point, make what is known as the *principal meridian line*. Then drawing a line at right angles across the *principal meridian* they establish what is called a *base line*. Marks

1. The Government section lines. Marks at the corners of



HOW

A Township is 36 sections. A section is 360 acres. An eighth section, a quarter



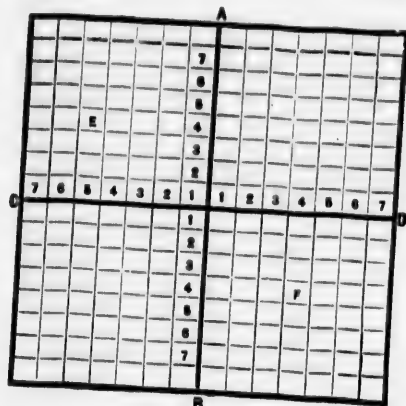


DIAGRAM NO. 1.

one-half mile apart are left on each of these lines throughout their entire length.

Illustration: A B = Principal Meridian. C D = Base Line. The numbers on the line A B mark the *township lines*, and the numbers on the line C D mark the *range lines*.

Range lines are run north and south, six miles apart on both sides of the principal meridian, and numbered as shown in diagram above. Township lines are run six miles apart, parallel to the base line and numbered as shown above.

Example: E is in range 5, west, and in township 4, north, or 30 miles west from the principal meridian and 24 miles north of the base line (each square represents a township six miles each way). F is in range 4, east, and is in township 4, south, or 24 miles east of the principal meridian and 18 miles south of the base line.

HOW TO LOCATE LAND AND READ AND WRITE DESCRIPTIONS.

A Township is 36 sections, each a mile square. A section is 640 acres. A quarter section, half a mile square, is 160 acres. An eighth section, half a mile long, north and south, and a quarter of a mile wide, is 80 acres. A sixteenth section, a quarter of a mile square, is 40 acres.

between the corners. By these marks any piece of land may be accurately located.

2. Land is generally bought and sold in lots of 40 acres, or 80 acres, or 120 acres, or 160 acres, etc.

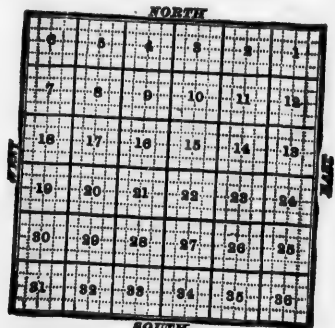
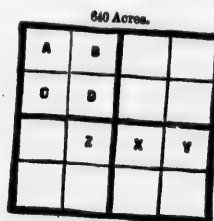


DIAGRAM NO. 2.



Sec. 25.

DIAGRAM NO. 3.

Example: Lots A, B, C and D, taken together, are one-fourth of the entire section, and described as the N.W. $\frac{1}{4}$ of Sec. 25.

A is described as N.W. $\frac{1}{4}$ of N.W. $\frac{1}{4}$ of Sec. 25.

C D is described as S. $\frac{1}{2}$ of N.W. $\frac{1}{4}$ of Sec. 25.

X Y is described as N. $\frac{1}{2}$ of S.E. $\frac{1}{4}$ of Sec. 25.

Z is described as N.E. $\frac{1}{4}$ of S.W. $\frac{1}{4}$ of Sec. 25.

N.B. Where the government surveys cannot be used a full description has to be written out by the county surveyor.

1. The Government survey ends with the location of the section lines. Marks are, however, made by the surveyors at the corners of the section and also half-mile marks

LIABILITY OF RAILROAD AND EXPRESS COMPANIES.



1. **Common Carriers.**—Where goods are entrusted to a common carrier, such as railroads, steamboats, etc., to be transported from place to place, the carrier impliedly promises ordinary diligence, and they are liable for carelessness and negligence. Any accident or delay on account of carelessness will hold the company in whose possession the goods have been entrusted.

2. **Duty of Carriers.**—It is the duty of carriers to take the utmost care of goods from the moment they are received, and to obey the directions of the owner or shipper.

3. **Responsibility.**—Common carriers are not responsible for damages caused by the act of God, such as winds, storms, floods, earthquakes, etc.

4. **Damages.**—Any damages that have occurred to the goods in possession of the carrier must be made good if it occurred by carelessness of any of the employees.

5. **Loss by Fire.**—The carrier is liable for any and all loss occasioned by accidental fire.

6. **Perishable Goods.**—Carriers are not responsible for loss to fruits that decay in their possession, or goods shipped in defective boxes, such as glassware not properly packed, and other articles that are easily broken. Goods must be properly packed in order to make the carrier responsible.

7. **Receipt.**—In shipping goods by freight or express a receipt should always be taken and safely laid away.

8. **Collecting Damages.**—In case of loss or damage the railroad or express company should be duly notified, and the amount of loss or damage clearly stated, and, if required, sworn to before proper officers. If the goods were lost in transit, the company is obliged to pay the

market value at the point of destination on all goods intrusted to them for transportation, which, through their fault, are lost or destroyed.

9. **Obligation to take Goods.**—A common carrier is obliged to take any goods offered him for transportation to any place on his route, provided the freight is paid; but he may refuse to take the goods to be carried if they are of a dangerous or explosive nature, or if his vehicles or conveyances are full.

10. **Carrier's Tariff.**—In case of railroads, etc., they usually have a tariff of rates, and every shipper, whether great or small, is charged the same rate. The law of the country fixes a limitation which governs the rates that must not be exceeded. With truckmen, etc., the rate is charged as mutually agreed upon between the parties.

11. **Carrier's Security.**—Every carrier that transports goods has a lien on the goods for the freight. If he delivers the goods voluntarily he forfeits his lien, but may recover the freight as a personal debt. It is customary, when freight is not paid in advance, for the carrier to collect it from the person to whom he delivers the goods. But, if he chooses to deliver it, he may recover the amount of the freight from the shipper, for it was with him the contract was made, and not with the consignee.

12. **Carriage of Live Stock.**—In the shipment of live stock a passage is usually furnished an attendant, whose duty is to care for, water and feed the animals. The company is, therefore, not responsible for any loss arising from lack of food or water, or loss occasioned by the habits or instinct of the animals transported. For example: If transporting a carload of cattle, should one animal gore and kill another, the company is not responsible for the loss that might have been prevented by the care or diligence of its employees.

13. **Neglect to Remove Freight.**—If the carrier gives prompt notice of the arrival of freight at its destination, and consignee fails to take it away in a reasonable time, the company may charge storage; besides, they are not responsible for destruction by vermin when freight is shipped by the car to be unloaded by the consignee; and should he fail to unload it within a reasonable time, he is liable to demurrage for such time as he detained the car.

TRANSPORTATION OF PASSENGERS.

1. **Definition.**—Any person or company that makes it a business to carry passengers as a public employment, may be called a common carrier of passengers, such as railway and navigation companies, stages, etc.

Since their offers are general, and may be accepted by anyone, they are bound to carry any person, wherever he desires to go on their route. On the other hand, they may refuse a passenger for the following reasons:

MANUAL].

(a) If the traveller has not paid

(b) If the traveller has a contract with a contractor

2. **Responsibility.**—A common carrier is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

1. **The Hotel-keeper's Liability.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

(a) **His Duty.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

(b) **His Liability.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

The hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

(c) **His Lien.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

GENERAL

1. **What.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

2. **Why.**—A hotel-keeper is liable for any loss or damage to goods carried in his vehicles or conveyances, with his consent.

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(a) If the conveyance is already full, or the passenger has not paid his fare.

(b) If the passenger is disorderly, intoxicated, or affected with a contagious disease.

2. **Responsibility.**—The carrier is responsible for injury occasioned by his negligence, either to persons he is carrying in his conveyance, or to persons he hurts or injures with his conveyance.

Proof of great care will excuse the carrier from liability for injury to a passenger, but no proof of care will relieve him of responsibility for loss of freight or baggage.

Wherever skillful employees, such as pilots, engineers, conductors, masters of ships, etc., are necessary, the company is bound to provide them, and all such employees must obey all the laws of the country made for their special guidance.

HOST AND GUEST.

1. **The Host.**—Any person supplying board and lodging to travellers is called the host or landlord. His place of business may be called Hotel, Inn, Tavern, Public-house, etc., and the persons he entertains, his guests.

(a) **His Duties.**—Since the hotel-keeper is in the business of supplying board and lodging to travellers, his offers are general and may be accepted by any person; hence he is bound to accept all travellers that desire entertainment. Exceptions are: In case his house is already full, or the person is drunk or disorderly, or has some infectious or contagious disease, or refuses to pay in advance, or is reported a thief or burglar.

(b) **His Liabilities.**—The host is responsible for the baggage, money or property of his guest, whether it was in the guest's room or under the landlord's special care; unless the guest did by special agreement assume the responsibility himself, and on request refused or neglected to place his property under the host's charge or under lock and key.

The hotel-keeper is responsible for the acts of his servants and his guests; and also for loss by fire or in any other way, except by "alien enemies or an act of God," or by the servant or companion of the guest.

(c) **His Lien.**—The host has a lien on all the goods and property of the guest for the payment of all board, lodging, etc., furnished him or his family or his servants who travelled with him. He may hold such articles until the

bill is paid; and also the property of a third person in the possession of the guest, unless it was known by the host before making the contract for lodging that such property did not belong to the guest.

2. **The Guest** is any person absent from home, travelling for pleasure or business, who applies at a hotel for board or lodging, or both, and is accepted by the host.

A traveller simply leaving his baggage at a hotel is not considered a guest, and the landlord is not responsible for same to any great extent; but should he leave his horse there for entertainment he is a guest, and the host at once becomes responsible for the baggage left with him.

(a) **His Duties** are to conduct himself in a proper and becoming manner, to place his money, baggage or property under the landlord's control if requested, and to pay the required compensation in advance or whenever requested.

3. **Boarding Houses** differ from hotels in the following particulars:

(a) They are not open to the public, and are only intended for permanent boarders.

(b) They may refuse any person at their pleasure.

(c) They are not responsible for baggage or property, and are only liable for same when caused by gross negligence.

Most hotel-keepers are also boarding house keepers, having a number of permanent boarders residing in the house. In such cases the relation of the landlord is the same as any other boarding house keeper.

GENERAL FACTS REGARDING PATENTS IN CANADA.

1. **What.**—A patent for an invention is a grant for a specified time, to the inventor or his legal representative, of the exclusive right to make, use and sell the invention claimed in the specifications thereto annexed.

2. **Why.**—Inventors and discoverers are the vanguards in the march of improvements. Without them society would stagnate and retrograde. The Government, therefore, issues patent grants to encourage them to greater

research, and so perfect machines and other devices that business and manufacturing interests may be benefited.

3. **What Patentable, and by Whom.**—Any person who has invented any new and useful article not in use or for sale for more than a year before the date of application, may have it patented. It may be a whole or part of a machine, a medicine, a mixture, a process of manufacture, or design, or any new and useful improvement thereto. If

foreign, it must not have been patented longer than one year.

Joint inventors are entitled to joint patents, but neither can claim one separately.

4. How Obtained.—Applications should be made to the Commissioner of Patents, Department of Agriculture, Ottawa, accompanied by a drawing, model, or specimen of the invention, together with full explanations of the parts claimed as new, and a complete descriptive specification of the invention; also a fee of \$60 if patent is required for eighteen years, \$40 if for twelve years, and \$20 if for six years. Patents taken out for six years may be extended six or twelve years at same rates.

5. Why Refused.—The commissioner may refuse a patent grant when it appears to him that there is no novelty in the invention, that the invention has been described in a book or printed publication before the date of application, that the invention is already in the possession of the public with the consent or allowance of the inventor, that the invention has already been patented in Canada or elsewhere, or that the applicant is not the first inventor.

6. Caveats.—Inventors requiring any further time or means for the completion and perfection of their invention, should invariably be protected by a caveat, which is a description of the invention desired to be patented, lodged in the Patent Office before the patent right is taken out, operating as a bar to applications respecting the same invention from any other quarter. A caveat continues in force one year, but may be renewed annually. In the United States only her own citizens can file a caveat; but anyone, whether subject or alien, can file a caveat in the Canadian Patent Office.

7. Infringement.—Any person who makes or sells a patented article without the consent of the patentee, is liable to have the articles he has made confiscated, and the manufacture and sale of same stopped, to pay the patentee for all losses sustained, and to be fined, and also to be the cause of his customers being fined for using the patented article without leave.

8. The Mark "Patented" on Each Article.—Every patentee, in order to give due notice to all that his rights are protected by a patent, must paint or fix the word "Patented" and the date of the patent to all of his articles made under the patent, thus: "Patented May 7, 1889." The penalty for neglect is a fine of not more than \$100, or two months' imprisonment.

9. Forfeiture of Canadian Patents.—The patentee, or his legal representative or assignee, must, within two years from the date of the patent, begin to manufacture the patented article in Canada, and continue the manufacture in Canada, or the patent will be forfeited; and further, if after the expiration of twelve months from the issue of such patent, or any authorized extension thereof, the patentee or his legal representative imports into Canada the invention for which the patent is granted, the patent on said invention is null and void.

10. Canadian Patent Laws.—When an inventor holds patent of invention from a foreign Government, he must make application for Letters Patent of Canada before the expiration of twelve months after the issue of his foreign patent, and if during such twelve months any person has commenced to manufacture the invention in Canada, for which a patent is afterwards obtained, such person will have the right to continuously carry on the manufacture of the invention, even after the Canadian patent is issued.

COPYRIGHT.

1. Definition.—It is the legal and exclusive right given by the Government to an author of any book, map, chart, dramatic or musical composition, engraving, etc., to print, publish and sell such production for his own benefit during a period of twenty-eight years.

2. Who may Copyright.—Any person residing in Canada or any part of Great Britain or her colonies, or domiciled in any country having an International Copyright Treaty with the United Kingdom, who has written, drawn, engraved or invented such book, map, chart, etc., may have it copyrighted in Canada.

An alien to secure a copyright in the United States must be a resident. Resident in the United States, according to the Act of 1839, means any person who has taken up his abode with the intention of remaining.

Any book published anonymously may be copyrighted

by the first publisher instead of the author. The author may sell his right, and in that case the publisher may copy-right the production.

3. Condition of Copyright.—The following are the essentials for obtaining and holding a copyright in Canada:

(a) The work must be printed, published or reproduced in Canada.

(b) No book of immoral, treasonable, licentious or irreligious character can be copyrighted.

(c) Two copies of the work must be deposited in the Department of Agriculture, at Ottawa; one of which shall be deposited in the Parliamentary Library of Canada.

(d) A written description (instead of a copy of the work) will do in the case of paintings, drawings, statuary, sculpture, etc.

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(c) On the face or back of the title page a notice "Entered according to the Act of Parliament of Canada, in the year 18—, by A— B—, at the Department of Agriculture, at Ottawa," must be inserted by the author. This must be put on the face of maps, charts, drawings, etc., but the signature of the artist on a painting is sufficient.

A copyright is granted for 28 years, and an extension of 28 years more can be had on application.

4. **Penalties.**—In case an author fails to comply with the regulations, he loses his copyright.

Any infringement upon the rights of the author is a misdemeanor, and the person so infringing may be punished by fine, part of which goes to the Crown and part to the author; and all such works that are infringements are also confiscated.

5. **The Fees, Etc.**—One dollar and fifty cents pays for registering a copyright, and for a Certificate of Registration of the copyright, which is sent to the author.

All the business may be done by correspondence with the Minister of Agriculture, free of postage.

THE RIGHT OF MARRIED WOMEN TO OWN PROPERTY.

By the old common law a married woman had few rights. She was subject to the authority of her husband, and he could rule over her, but the Provinces have changed the common law, and the rights of married women are now recognized by every court.



"WHOM SHALL I MARRY?"

1. All property owned by the wife before marriage or received after marriage and held as her separate property, can be sold and transferred without the consent of her husband.

2. If a husband fails to make proper provision for the support of his wife, the law will compel him to furnish her proper support if he has sufficient property.

3. The wife must support her husband out of her separate property when he has no separate property and is without help or means of self-support.

4. The earnings of the wife are not liable for the debts of the husband.

5. The separate property of the wife is not liable for the debts of her husband.

6. The property owned by the husband before marriage, or acquired after marriage by gift or inheritance, is his separate property; but his wife, however, has a dower interest in the real estate.

7. The wife who deserts her husband cannot hold him for her support, unless she was justified in leaving, or offers to return.

8. The earnings of the wife and her minor children after living separate from her husband are the property of the wife.

9. If husband or wife transfer real estate of any kind, both must sign the deed, mortgage or contract.

10. In Manitoba, the right to dower does not attach until the death of the husband.

11. In case of separation of man and wife, without wife having adequate means of support, she is entitled to pledge her husband's credit for necessities.—*Tait vs. Lindsay*, 12 C. P., 414.

LAWS CONCERNING PUBLIC SCHOOLS.

1. There are established in Ontario, under the direction of the Education Department, the following classes of schools:

(a) Kindergarten Schools for pupils between 4 and 7 years of age.

(b) Public Schools for pupils between 5 and 21 years of age, in which instruction is given in the elements of an English and commercial education.

(c) Night Schools for pupils over 14 years of age, who are unable to attend school during the usual school hours.

(d) High Schools and Collegiate Institutes for such pupils as pass the entrance examination and desire a higher education.

(e) County Model Schools for the training of candidates for teachers' third-class certificates, which are good for 3 years. The candidate must furnish satisfactory proof of good moral character, and must be at least eighteen years of age before he is legally qualified to teach in a Public School.

(f) Normal Schools for the training of candidates for teachers' second-class certificates, which are good for life in the Public Schools only.

(g) School of Pedagogy for the training of candidates for teachers' first-class certificates, and for the training of teachers for High Schools and Collegiate Institutes. There may also be established *Art Schools, Teachers' Institutes, Mechanics' Institutes and Industrial Schools.*

2. **Public Schools.**—All Public Schools are free, and every person between 5 and 21 years has the right to attend. Under the Truancy Act every child between 8 and 14 years of age is compelled to attend for the full term, except in the following cases:

(a) If the child is under efficient instruction at home or elsewhere.

(b) If the child is unable to attend on account of sickness or other unavoidable cause.

(c) If there is no school within two miles and the child is under 10 years of age, or within three miles if over this age.

(d) If the child has been excused by a Justice of the Peace or the Principal of the school. This excuse may be granted for a period not exceeding six weeks in any school term, if the services of such child are required in husbandry or necessary household duties, or for the necessary maintenance of such child or of some person dependent upon him.

(e) If the child has passed the entrance examination.

3. **Non-Resident Pupils.**—The trustees of every Public School shall admit any non-resident pupils who reside nearer such school than the school in their own section; provided the accommodation is sufficient for the admission

of such pupil. For such privilege the parents or guardians of such non-resident children shall pay the trustees a certain monthly fee, mutually agreed upon.

4. No pupil shall be required to join in any religious exercise objected to by parents or guardians.

5. **Holidays.**—The Public School teaching year consists of two terms: The first beginning on the third Monday of August, and ending on the 22nd of December; the second beginning on the 3rd of January and ending on the 30th of June.

(b) In cities, towns and incorporated villages, the first term begins on the last Monday in August, and ends on the 22nd of December; the second term begins on the 3rd of January, and ends on the 30th of June, with holidays during the week following Easter Sunday.

(c) Every Saturday, every public holiday, and every day proclaimed a holiday by the authorities of the municipality in which the school section is situated, shall be a holiday in Public Schools.

6. **Agreements.**—Any teacher wilfully neglecting to carry out his agreement is liable, upon complaint of the trustees, to have his certificate suspended by the Inspector. But a contract or agreement to teach does not imply that he is to sweep out, build fires, or perform other janitor work. He is not compelled to do so unless it is specified in the contract or agreement.

(b) No person engaged to teach a Public School is legally qualified unless he holds a legal certificate at the time of his agreement with the trustees and during the whole period of engagement.

(c) Every teacher who serves under an agreement with a board of trustees, for three months or over, is entitled to be paid salary for the holidays in the proportion that the number of days he has taught bears to the whole number of teaching days in the year.

(d) Every teacher shall be entitled to his salary during sickness for a period not exceeding four weeks for the entire year; this period may be increased at the pleasure of the trustees.

(e) A person hired to perform the duties of a teacher cannot substitute a proxy, no matter how competent, without the consent of the trustees.

7. **Inspectors.**—It is the duty of the county council to appoint one or more inspectors for the county, each having charge of from 50 to 120 schools, which he is expected to visit once each term, and report to the Department.

(a) Inspectors in cities and towns, separated from the county, are appointed by the trustees.

(b) An inspector may be dismissed for misconduct or inefficiency by a majority of the council, or without cause by a two-thirds vote of such council.

THE

1. **Definition.**—by the person at a certain time to the bearer.

2. **Two Kinds.**—payable to order or to bearer.

3. **Time of Payment.**—time is not due of payment. universal custom is generally called.

4. **Parties.**—note is called a note is drawn by the maker.

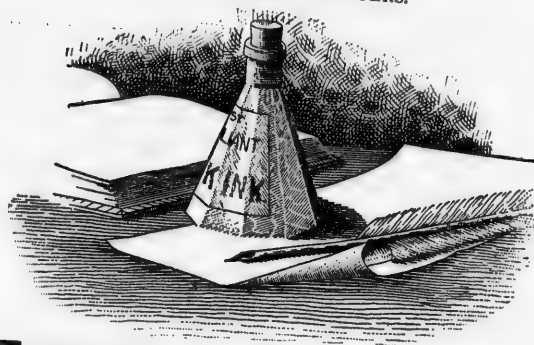
5. **Maker's Liability.**—a note is under the person in person he may be liable.

6. **Requisites.**—sary in a note to date of payment one of the two amount be specified in money or promise.

7. **Endorsement.**—transferred by the person or his order.

8. **Promissory Note.**—transferred after any defense when original payee.

In Canada it is to notify the endorser.



THE LAWS AND RULES GOVERNING THE WRITING AND TRANSFERRING OF ALL KINDS OF NOTES.

1. Definition.—A note is a written promise, signed by the person promising to pay a certain sum of money at a certain time, to a person named, or to his order, or to the bearer.

2. Two Kinds.—There are two kinds of notes, those payable to order and those to bearer. (See Forms)

3. Time of Payment.—A note payable at a future time is not due until the third day after the specified day of payment. The three days of extension are called by universal custom "Days of Grace." The day of payment is generally called the day of maturity.

4. Parties to a Note.—The man who signs the note is called the maker, and the party in whose favor the note is drawn is called the payee.

5. Maker's Responsibility.—The person who signs a note is under legal obligations to pay the note either to the person in whose favor the note is drawn, or any person he may transfer the note to before maturity.

6. Requisites of a Note.—The five things necessary in a note to make it negotiable are: First, that the date of payment be certain to come; second, that it have one of the two words, order or bearer; third, that the amount be specified and certain; fourth, that it be payable in money only; and fifth, that it be an unconditional promise.

7. Endorsement.—Paper payable to bearer may be transferred by delivery, but paper payable to a certain person or his order, must be endorsed.

8. Promissory Notes.—Promissory notes can be transferred after maturity, but are, however, subject to any defense which might have been made against the original payee.

9. Forgery.—Any person whose name is forged to a Note, Draft, or any other commercial paper, is not responsible, and the paper cannot be enforced against him.

10. Fraud.—A person who signs a note and is not aware that he signs his name to an agreement that he is to pay a specified sum, notwithstanding this ignorance can be held for the amount, provided the note is in the hands of an innocent party. For instance, if a swindler obtains a person's signature and afterwards writes a note above it and sells the same to a banker or other party who knows nothing about the circumstances, the party whose name appears upon the note, though he wrote nothing but his name on a blank piece of paper can be compelled to pay the note, because it has been transferred into the hands of an innocent party.

11. Knowledge of Defects.—No one who receives a note or other commercial paper knowing at the time certain invalidating defects, gets no better right to collect it than the one from whom he received it.

12. Lead Pencil.—A note written with a lead pencil is good.

13. Persons Who Cannot Write.—A note given by a person who cannot write must be witnessed, and the person giving the same must make his mark, or touch the pen while it is made. (See Form.)

14. Negotiability is that form of commercial paper which permits to be transferred to another party, and the party thus receiving it has the right to collect it and receive all the benefits of its promises.

In Canada it is necessary to protest a note within twenty-four hours from the time it becomes payable and to notify the endorsers in writing in order to hold them responsible. The protest should be made by a Notary Public.

THE LAW OF WRITING AND TRANSFERRING CHECKS AND DRAFTS.

1. Drafts.—A draft is a written order, signed by one person, ordering another person, to whom it is directed, to pay a certain sum of money, at a certain time, to a third person, or to his order, or to bearer.

2. Checks.—A check is an order on a bank, or banker, to pay another person, or to his order, a certain sum of money, immediately.

3. Difference between Checks and Drafts.—A check is always drawn upon a bank or some person who carries on a banking business, and it is always made payable immediately, by a simple order. A draft may be drawn on a bank or on a private party, and may be made payable on demand, or a certain number of days after date, or after sight.

4. Days of Grace.—A draft payable at a future time is not due until the third day after its specified day of payment. These additional three days are called "Days of Grace." Drafts drawn at sight, or on demand, and checks, have no Days of Grace. They are payable when presented.

5. Acceptance of a Draft.—When a draft, payable at some future time, is presented to the person on whom it is drawn, before it is due, and he agrees to pay it when it becomes due, he writes the word "accepted," and the

date, and signs his name in red ink across the face of the draft. The draft then is often called an acceptance.

6. Certified Checks.—Where a bank has funds on hand to meet the check, and the holder does not desire immediate payment, the bank will certify the check. This is done by the president or cashier by writing the word "good" or "certified" across the face, with his signature. This gives the holder a claim against the bank, and makes the bank responsible.

7. Negotiability.—Checks and drafts, in order to be negotiable, must be made payable to order, or bearer, the same as a note.

8. Transferring Drafts and Checks.—Drafts and checks may be transferred the same as notes. If made payable to order, they must be indorsed, either in full or in blank. If payable to bearer, they can be transferred without indorsement, although it is customary and desirable to obtain the indorsement of every holder.

9. Presentment for Payment.—A check should be presented for payment at the bank as soon as possible after its receipt. It is unsafe to delay, as in case the bank should fail, the holder would have no right to demand payment of the maker, if he failed to present it at the bank within a reasonable length of time.

THE LAW AND RULES GOVERNING RECEIPTS.

1. The Importance.—Thousands and hundreds of thousands of dollars are annually spent in law-suits, because people will not do business in a proper manner. There are many estates tangled up in difficulties, because when money was paid, or other business transacted, the proper receipts were not given or preserved. Many lives have been lost through the careless methods of transacting business and not having the proper receipts to show for it; consequently difficulties, feuds, bad blood, and even murder ensued. Never pay money unless you have the proper receipt to show for it.



2. Definition.—A receipt is not a contract, it is only evidence. Thus if a receipt should be given when there was no payment really made, it would have no effect; the debt would still remain. One is always at liberty to prove the truth in spite of a receipt.

3. Mistake.—If the receipt has been made for a greater or less amount than the bill or debt, adequate proof of the error is all that is necessary, and the receipt will be set aside.

4. The Important Feature.—If payment is made on account, or for a special debt, or in full, it should be so stated in the receipt.

5. Payment of Note or Check.—It is not necessary to take a receipt on the payment of a note, check, or draft, because the instrument itself becomes a receipt.

THE RULES AND LAW GOVERNING ORDERS AND DUE-BILLS.

1. Orders.—Orders are negotiable, but the person on whom they are drawn is not under obligation to pay them, unless they have been accepted, for an order partakes the nature of a draft.

2. Due-Bills.—A Due-Bill is not generally payable to order, nor is it assignable by mere indorsement. It is simply the acknowledgment of a debt; yet it may be transferred. Due-Bills do not draw interest, unless so specified,

1. Definition.—Defining or altering money commonly known as signing the amount of the case made.

2. Not a contract.—Neither contract nor buying for goods.

3. One Made Responsible.—One who is not contractually bound, which are in my name, drawer, or my indorsement, the contract that is, to pay of a check, the bank must enforce how care he must always.

4. Payment.—Payment still further. not pay, but the skillfulness less, he may receive he paid it. The

1. Express.—Express either expressed is or shall be as example, a seller safe to ride or

2. The Contract.—The goods or articles wanted to be, the damages.

3. Buying Goods.—The quality of goods at the time of purchase must himself take their quality.

FORGERY.

1. **Definition.**—Forgery is the fraudulently making or altering a written instrument. Forgery is more commonly committed by making a check, draft or note and signing the name of some responsible person. It is sometimes done by raising the amount, or by erasing the amounts that are on the note, check or draft, whichever the case may be, and putting in larger amounts.

2. **Not Commercial Paper.**—A forged instrument is not commercial paper. Being false, it represents neither contract nor property, and any person holding or buying forged paper has no power to collect it.

3. **One Whose Name is Forged, Cannot be Made Responsible.**—The act is not his, and one certainly should not be held responsible for another's acts, which are entirely unauthorized. Thus if a note is forged in my name as maker, or a draft forged in my name as drawer, or the acceptance forged in my name as acceptor, or my indorsement forged upon any paper, I do not make the contract and therefore cannot be made to fulfill it, that is, to pay. So if my name is forged as the drawer of a check, and the bank believing it genuine pays it, the bank must lose rather than I. It makes no difference how careful or honest one is who takes forged paper; he must always take the risk of its being a forgery.

4. **Payment Under Mistake.**—But the rule goes still further. One whose name is forged, not only need not pay, but even if he should be himself deceived by the skillfulness of the forgery, and should pay, nevertheless, he may recover his money from the one to whom he paid it. This is but one case of the general principle

that Money Paid Under a Mistake must be Refunded. Thus, even if the supposed maker, or drawer, or indorser should, after a careful examination, admit his signature to be genuine and should pay, yet the one to whom he paid would have to refund if the signature turned out to be forged.

5. **Transfer of Forged Paper.**—The transfer of forged paper adds no validity to the paper, as it is nothing more or less than a piece of waste paper. The responsible party who transferred it is responsible for the amount, but the paper itself is worthless. If a person buys a forged note for \$100 and sells it to another for \$100, and the latter finds it to be forged, then the first one will have to lose the amount.

6. **Raising Amount.**—Paper is sometimes forged by erasing the amount named in a genuine instrument and putting in a larger amount. It is then perfectly valid as to the original sum, but wholly void as to the excess. Even though it is accepted or certified after being raised, the acceptance or certification does not make the acceptor or the bank responsible for any more than the original sum. And if the excess should be paid it could be recovered.

7. **Practical Suggestions.**—The business suggestion to be gained from all these rules about commercial paper is, that in buying it, unless we are absolutely certain that it is genuine and a valid contract in every respect, we should be careful about those from whom we buy it, so as to have some one responsible to fall back upon if it turns out invalid.

THE LAW AND RULES GOVERNING WARRANTIES.

1. **Expressed or Implied.**—A warranty may be either expressed or implied that a certain thing when sold is or shall be as it is promised in the agreement. For example, a seller may warrant a horse sound, gentle, and safe to ride or drive.

2. **The Condition of the Warranty.**—If the goods or articles purchased are not what they are warranted to be, the purchaser may take back the goods and receive back the money paid, or he may claim damages.

3. **Buying Goods.**—There is no implied warranty of the quality of goods which can be inspected by the buyer at the time of purchase, but the rule is that the buyer must himself take care not to be deceived concerning their quality.

4. **Articles Made to Order.**—Where an article is ordered to be made for the buyer for a special purpose, and the buyer relies on the skill and knowledge of the maker to provide him with a suitable article, there will be an implied warranty that the article shall be reasonably adapted to its intended use.

5. **Goods Must be Like Sample.**—In a sale by sample the seller impliedly warrants that the bulk is like the sample; and, if the seller is the maker or producer of the goods, that the goods have no secret imperfections. But it must be a sale strictly by sample; where the buyer still intends to examine the bulk, it will not create any implied warranty. The buyer has a right to examine and return the goods, if they are not the same as the sample.

NEVER MAKE A BARGAIN



Until You Have Thought It Over
CAREFULLY.

HOW TO WRITE A CONTRACT.

RULES AND LAW GOVERNING CONTRACTS.

1. How to Write a Contract.—It is a prevailing opinion that only lawyers can write contracts; but this is an erroneous idea, for the legal phrases or learning of a lawyer is not at all necessary in order to make a contract legal and binding upon its parties. A person who can write a letter can write a contract, hence a contract is simply a written statement in plain language what two or more persons agree to do or not to do. A bare statement of facts and the proper signatures make a contract as binding as though forty lawyers united to write it. He who can write a note can just as easily write a contract, for a note is nothing more or less than the simple form of a contract. A plain statement of facts is as easily written as the terms and conditions of a note.

2. Errors.—If there are any grammatical errors or misspelled words, it will not affect the legal force of the contract in the least. The intent and purpose of the parties when writing the contract will be the interpretation placed upon it by the court, in case any legal question should arise.

3. Definition.—A contract is an agreement between two or more persons to do or not to do a certain thing. The fundamental rule of law in regard to contracts is that every one must fulfill every agreement that he makes, unless a new agreement has changed or set it aside. Every person must keep his promise, or pay the penalty or damages for not doing so.

4. Two Kinds of Contracts.—Contracts are either written or oral, but it is always best to have a written contract, as the subject matter is definite matter, so no question can arise as to the intentions of the parties when the contract was written.

5. Oral Contracts.—Oral contracts are given by word only, and are either expressed or implied. An expressed contract is one definitely expressed in words. An implied contract is one implied from all the circumstances of the transaction.

6. Implied Contracts.—Implied contracts are quite common and we shall meet them frequently. They arise in those cases where, though there are no words of agreement by either party, such as "I agree," or "I will," or "I promise," yet something is said or done which in reality amounts to an agreement. Thus, if I buy goods in a shop, I am compelled to pay for them, though nothing is said about paying or the price, for my being there, asking for the goods, and taking them away, are equivalent to my saying, "I will pay for them." My actions say what my tongue does not. One is considered as having agreed to whatever he knowingly leads to believe he has agreed to.

7. Gratuitous Services give no Claim to Compensation.—There is no implied contract, because the services were not requested. Were this not so, any one might force upon us, and force us to pay, what we did not want. But if the benefit of anything gratuitously done, is retained when it could be refused, there arises an implied contract to pay.

8. Who can Make Contracts.—All those under twenty-one years of age are called minors, and cannot make a contract except for the necessities of life, school books, and things of that character. Contracts are not good when made with a person of unsound mind.

9. Consideration.—Every contract must have a consideration, in order to make it good. A consideration is the thing which induces anyone to enter into a contract.

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or an agreement, to do or not to do a certain thing. The consideration therefore must be an inducement or benefit, or an equivalent in some way for the things to be done or not to be done. One party must promise to do something as an equivalent to the other's promise. The fact that the consideration is not sufficient, does not, as a rule, affect the binding qualities of the contract. For instance, a party may sell his property for as little as he pleases, but he cannot afterward enter suit for its recovery.

10. Subscription.—A subscription to a church or a charity is generally a promise without a consideration, and cannot be enforced against the subscriber if he declines to fulfill it. If, however, he has signed a subscription paper in which the subscription of each person is made the consideration of the others, the contract is valid and he may be compelled to pay, as in the case of any debt.

11. Consent.—No contract is good without the consent of both parties. They must mutually agree to the terms of the contract. Their minds must meet on the agreement.

12. Performance.—The conditions of the contract or agreement must be performed by one party in order to compel the other party to perform his part. Every party to a contract must perform his part, or be willing to perform it, in order to compel the other party or parties to perform their part or pay damages.

13. Breach of Contract.—For the breach of a contract the remedy is generally an action at law for damages. The measure or amount of damages to be given is a fair compensation for the injury done. If no actual loss is incurred, only nominal damages, as six cents, can be recovered. In some cases where the amount of damages may be uncertain, the parties often agree on a specified sum to be paid by one party to the other, if the contract is broken. This is called "liquidated damages." If the amount of damage is certain, however, the parties cannot fix upon any sum in excess of the real damage as a penalty. The penalty will be reduced to the amount of the real damage.

*** 14. Gambling Contracts.**—Wagers or bets depending on chance, as a race, a game, or a lottery, or any contingent event, are unlawful, and all contracts on account of money wagered are void. This is generally the law throughout the United States, but the laws of the various States differ very much.

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15. Sunday Contracts.—All contracts made on Sunday are void, except contracts which concern what are known as "works of charity and necessity." It is perfectly lawful to sell food and medicine on Sunday, for these are necessities, but not other articles which just as well be sold any other day. Contracts of sale of

* Deeds and notes made on Sunday are valid in Illinois and some other states. The Supreme Court of Illinois has recently held that contracts made on Sunday are valid and can be enforced.

such articles are void, and if the purchaser refuses to pay for the goods, he cannot be sued for the contract price, but only for the reasonable value, which may be and often is much below the price.

*** Deeds and notes made on Sunday are void.** This may sometimes be avoided by dating the document ahead, as on Monday.

*** 16. Bribery.**—Any contract, which directly or indirectly tends to corrupt legislation, is absolutely void. A lobbyist, even if successful, cannot recover the promised reward from his employer, much less a Senator, or a member of Congress or of a State Legislature, who is promised a money or other valuable consideration, for his influence or vote. Such a contract, moreover, is a criminal offence for which a legislator may be impeached, and for which any person concerned may be indicted and punished.

17. Felony.—Any person who agrees to take money or value for refraining from exposing, accusing, or prosecuting another person who has committed a felony, such as murder, or theft, or seduction, is guilty of a crime. All such contracts are absolutely void.

18. Disability.—Incapacity is never presumed in cases of contracts; but if it is alleged it must be proved by the party making the allegation.

19. Natural and Artificial Incapacity.—Incapacities are natural, or artificial. Absolute duress, insanity and imbecility, are examples of the first class; while marriage and servitude are of the latter kind. Natural incapacity is recognized, not created, by law. The incapacity of an infant, or an idiot, cannot be imposed upon, or removed from, any one, by legislation. On the contrary, the legal "infant" of twenty years, and the married woman, having unquestioned natural capacity, are disabled only by positive law.

20. Contracts Governed by the Law of the State in which they are made.—If one goes from a State where he is under an artificial legal disability, into a State where no such disability is imposed, the disability is removed while he remains, and contracts he executes there, could be enforced against him. Every contract is to be construed according to the law of the place where it is made.

21. Impossibility of Performance.—This is another defence in an action for damages, for breach of a contract. If a promisor is prevented from performing his part, either by an act of God, or an act of a public enemy, or an act of the promisee, he is not liable to respond in damages.

The performance must be rendered absolutely impossible; for the endurance of a mere hardship or difficulty would not suffice. An act of God, in legal

The Supreme Court of Illinois has recently held that contracts made

*** 14. Read** "This is generally the law throughout the United States and Canada."

*** 16. This paragraph also strictly applies to our Senators and Members of the Provincial Legislature and of Parliament.**

meaning, is an act, or event, over which man has no control,—neither power to cause nor prevent.

22. Impossible in Its Nature.—If one promises to do that which is naturally and obviously impossible, as if one promised to tunnel a range of mountains in a day, for the passage of railroad trains, the contract must be void from its inherent absurdity.

23. Partial Payments.—In applying payments on debts drawing interest, it is safe and equitable to follow the rule that payments will first be applied to cancel the interest due, and then to diminish the principal. If a

payment is made when no interest is due, then apply it to cancel a part of the principal and the interest accrued on such part. This will make it equally desirable for the debtor to make payment, and the creditor to receive the same. If it is stipulated in the contract that "interest is payable annually," and payment is made and accepted when no interest is due, then in such case the payment should diminish the principal. And if the interest is not paid when it becomes due, it should also draw interest; but a contract for compound interest is never legally presumed.

LEGAL GIFTS.

*** 1. Who Can Make Gifts.**—Any person legally competent to transact business, may give whatever he, or she, owns, to any other person. A gift by a minor, a married woman, an insane person, or a person under guardianship, or under duress, would be void, or voidable, according to the circumstances.

2. Delivery of Gift Necessary.—A gift must be consummated, that is, the thing given must be delivered before any legal right rests in the grantee. A promise to give is not binding, as it is supported by no consideration. Delivery may be actual or constructive.

3. Cannot Be Revoked by Donor.—A Gift made perfect by delivery, cannot be revoked by the donor; but if it prejudices the rights of existing creditors, it is void as to them. It is not, however, void as to future creditors, unless made under actual or expective insolvency, or with a fraudulent purpose.

4. Gifts Because of Expected Death Revokable.—Gifts because of expected death are revokable by the donor if life is continued; even after delivery and acceptance. Such gifts are held to have been made because death was supposed to be at hand; and if it does not ensue, the gift is defeated, as the death, which was the cause of the gift, has not taken place.

5. Possession.—In order to make a gift absolutely good, possession should be given when the gift is made, and thereby no change of mind or subsequent prejudice can change or revoke the transaction, if made in good faith and without deception.



They made him a Present and sent him away.



*1. In Canada a gift by a married woman is lawful. She may do anything with her property that she pleases, and while living with her husband she may pledge his credit for necessities.

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ENGAGEMENTS TO MARRY, OR, MARRIAGE CONTRACTS.

1. **Contracts to Marry in the Future.**—Mutual promise by a man and a woman to marry at some future day, constitute a valid contract.

2. **A Marriage Contract.**—A marriage is a civil contract, and is entered into by the mere consent of the parties. If the man says to a woman, "Will you marry me?" or words to that effect, and she says "Yes," or words that imply an affirmative answer, it is by law an agreement or promise of marriage, and both parties are legally held to carry out in good faith the promises thus made.

3. **Breach of Promise.**—If either party refuses to carry out the contract, he or she is guilty of breach of promise, and may recover damages of the other party. It is not very often, however, that the man sues the woman, though he has the right to do so if she fails to make good her promise.

4. **Necessary Proof.**—Generally in case of a lawsuit for breach of promise, there are no direct witnesses, as people generally become engaged without the presence of a third party, but the engagement may be implied by the conduct of the party sued.

5. **Implied Evidence.**—The promise of marriage is implied from circumstances, such as constant visits, presents, or open declarations of the parties, the reception of parents or friends, as an engaged couple, without any objections from the party accused. There are many ways of expressing serious intentions without an open declaration in words. Conduct speaks louder than words.

6. **Excuses for Breaking the Promise.**—A refusal may be justified on the ground of the bad character or conduct of the other party; poor health of either party is sometimes a good excuse, but not generally. If the woman were a widow or divorced, and concealed this fact from the man, this justifies a refusal to marry on his part.

7. **Time of Marriage.**—When a man promises to marry a woman without stating any special time, the law holds him guilty of breach of promise, unless he is ready to fulfill his engagement within a reasonable time, five years was held by law as being an unreasonable time.

8. **When a Promise is Not Binding.**—If either party is under twenty-one years of age, he or she is not bound by promise to marry, and the law will excuse them any time from making good the promise; but, if the man is over 21 years of age, he can be held, and must make his promises good or pay the damages.

9. **Seduction.**—Seduction of a woman of lawful age under promise of marriage and subsequent refusal to



POPPING THE QUESTION.

marry on his part, while not a crime, subjects the person so doing to heavy damages in a civil action for a breach of promise to marry, the seduction being used in aggravation of the ordinary damages allowed in actions for breach of promise to marry.

10. **A Cowardly Act.**—A young man who makes promises of marriage to a young lady, or gives her reason to believe that he is sincere in his visits and intentions, and then without excuse or cause devotes his attentions to another, commits a cowardly act. No honorable young man will do it.

No young man has a right to demand a young lady's exclusive company, without some definite understanding, and a young lady is very injudicious, if not foolish, if she receives the attentions of a young man, who claims her entire society, without some understanding or promise of sincerity. When the promise of marriage has once been made, it should be kept in good faith, unless both parties mutually agree to dissolve. The law always requires the promises of marriage to be met in good faith.

THE LAW GOVERNING THE RELATION OF PARENT AND CHILD.

1. Ancient Authority.—In past ages the father was by custom considered as *absolute* monarch of the home. In the oriental countries of to-day, the same custom still prevails; modern progress, and modern ideas, however, have changed old customs, and the authority of the parent in civilized countries has been considerably limited by law.

2. Rights of Parents.—The parent has control of his minor child, and has all reasonable authority to enforce obedience. As long as the parent treats his child properly, no one has a right to interfere with his authority, or take the child away and retain him against the wishes of the parent.

3. A Runaway Child.—A child has no right to leave home without permission of the parent, and should a child run away he can be brought back by force. If relatives or other parties keep him and refuse to give him up, the parent by legal process can obtain possession of his child, unless it can be shown that the father is brutal, or is not capable on account of drunkenness or other causes to take proper care of his child.

4. Adoption.—Any child, whether its parents are living or not, may be adopted. In that case the parent is no longer entitled to the custody, but the adopting person is. The child cannot be adopted without the consent of its parents, if they are living, but the consent having once been given, cannot be revoked. If the child is over fourteen years of age, it must also consent to the adoption.

5. Method of Adoption.—An agreement must be made and executed between the parent or parents of the child and the adopting person, by which the parents transfer to the adopting person all the rights of a parent. It is customary for the parents to give a bond, insuring the adopting person against interference with the new rights acquired.

6. Punishment of Children.—A parent has a right to punish his minor child, providing he is not guilty of cruelty. Brutality is a crime, punished by severe legal penalties. The parent must be reasonable in his punishment, leave no bruises or in any way injure the health of the child.

7. Right to Earnings.—A parent is entitled to all the earnings of his minor child. If the child should refuse to turn over his earnings to the parent, the employer of the child may be notified, and be compelled to pay the parent only.

8. Special Rights.—The parent may, however, make free his child from all obligations to himself and allow the child to collect his own wages and do for himself.



When a parent thus makes public such a declaration, he cannot thereafter collect the child's wages.

9. The Property of the Child.—A parent may control the earnings of the child, yet he has no control of the property belonging to the child, either acquired by gift, legacy or any other way. If a parent should appropriate his child's property, it would be just as criminal in the eyes of the law as stealing any one else's property.

10. Parents' Obligation to Support.—Parents are legally held for the support of their minor children. If a child has property, it does not relieve the parent from the support of his child; he however can apply to court and get permission to use a part, or all of the income of the property for the child's support.

11. Illegitimate Children.—It is a parent's duty to support even an illegitimate child. Such a child has legally no father, but his putative father, as he is called, may be compelled by the overseers of the poor to fur-

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nish the child with reasonable support, so that it shall not become a "burden on the parish." All children born in wedlock are legitimate, unless it is proved that the husband could not possibly be the father. The adultery of the wife cannot affect the legitimacy of the child. He is conclusively presumed to be the child of the husband. It makes no difference how soon after the marriage the child is born. A child born the same day as the marriage, if subsequent to the ceremony, is legitimate, provided there is good reason for believing that the husband is the father.

12. **Effect of Illegitimacy.**—An illegitimate child cannot inherit from its father, but may inherit from its mother. It may take a legacy under the will of its putative father, but if there is no will it can only inherit

from its mother.

13. **Children's Obligations.**—Where the parents are unable to support themselves, the child is legally held for their support and care, but it must be first shown that the parent, or parents, are unable to support themselves.

14. **Crimes.**—The parent cannot be held for crimes committed by his minor child. If a child commits a premeditated crime, he is personally liable.

15. **Guardian.**—If a child has no parents living, a guardian may be appointed, or he may appoint his own guardian, who will in a legal sense exercise the prerogative of a parent.

RENTING LAND.

THE LAW OF LEASES AND TENANTS.

1. **Definition.**—A Lease is a contract by which the temporary use and possession of lands and buildings is granted by one person to another.

2. **Parties.**—The owner or the party making the lease is the lessor or landlord; and he to whom it is made is the lessee or tenant. The charge, which the landlord makes for the use of his property, is the rent.

3. **Oral or Written.**—A lease must be in writing if the property is to be let for more than one year. An oral lease of land for the period of one year is good and binding on both parties, but otherwise it creates only a tenancy at will. A lease is usually made for a certain length of time, with, perhaps, a privilege of renewal at the end of the lease. Dwelling houses are usually rented for a year, with the rent payable quarterly.

4. **Things Implied.**—A lease will carry with it to the tenant everything belonging to the landlord which is necessary for the proper use and enjoyment of the property leased. Thus, the words "house," "farm," "store," etc., unless they are specially defined in the lease, pass everything to the tenant usually meant by them.

5. **Form of a Lease and What It Should Specify.**—Leases, especially for terms of any length of time, should be executed under seal, as are other conveyances of real estate. Such a lease should recite the names of the parties, the date for beginning the lease, and the title which the landlord has in the property. It should next state the consideration, which is usually the rent. Then follow the words, which give effect to the lease, "grant, demise and farm-let" being the words commonly used.

They are accompanied by a description of the premises to be leased.

6. **Covenants of a Lease.**—Most leases contain covenants setting forth the agreements of the two parties in regard to the payment of taxes and insurance, renewals of the lease, modes of cultivation (if it is a farm), fixtures, etc. A lease should also provide for a forfeiture of the lease on a non-payment of the rent, or a breach of a covenant. This will enable the landlord to re-enter and eject the tenant in case of a breach of covenant or a failure to pay the rent when due.

7. **Leases That Must Be Recorded.**—Leases for a long period of years must be recorded to insure their validity against other parties without notice. Ordinarily this is so of leases for more than seven years; but in some States leases for a less number of years, or even for one year, should be recorded.

8. **Implied Covenant.**—In all leases under seal there is an implied covenant that the lessor has a good title to the property leased. In all leases there is an implied covenant that the tenant shall have undisturbed possession of the premises.

9. **Renewal.**—If a landlord covenants to renew the lease upon its expiration, he must renew it on the same terms as before. But this covenant will not become a part of the new lease, so that the landlord will have to renew it also, unless it clearly appears that the renewals were to continue indefinitely at the desire of the tenant.

10. **Repairs.**—A landlord is not under obligation to repair the premises, unless it is so expressly agreed. Even

*5. In Ontario leases for three years should be under seal.

*7. Leases for seven years, and leases not accompanied by actual possession should be registered.



— THE CHARIOT RACES. —

though the house becomes dilapidated and even uninhabitable, the landlord is still not bound to make repairs. There is also no implied covenant that the premises are suitable for the purposes for which they are leased.

11. **Taxes.**—A landlord is bound to pay the taxes, unless the tenant covenants to do so.

12. **Provision to Re-enter and Eject Tenant.**—Unless there is a covenant allowing the landlord to re-enter and eject the tenant on his failure to pay the rent when it is due, he has only his remedy as for any other debt. If such a provision is inserted in the lease, the landlord must make a proper demand on the exact day the rent is due, in order to ensure his right to enter.

13. **A Tenant's Duties.**—Except by express agreement, he is not bound to make repairs. In general, however, he is bound to leave the premises wind and water tight at the end of the lease. He must therefore, make any repairs necessary to preserve the house from actual injury, for instance, by shingling, replacing broken glass, etc. If he chooses to make other repairs, he cannot enforce a claim against the landlord to repay him for such repairs.

14. **Payment of Rent.**—A tenant is, of course, bound to pay his rent promptly as it becomes due.

15. **Return the Premises in Good Condition.**—If a tenant covenants to return the premises in good repair, reasonable wear and tear excepted, he is bound to rebuild in case they are injured or destroyed by fire. Even if there is no such covenant in the lease, he is still bound to pay rent, though the building is destroyed. Therefore, a lease should provide that, if the premises become wholly or in part untenanted by fire, the rent should cease or abate proportionably; and that the premises shall be returned in good repair, except in case of injury by fire or other unavoidable accident.

Statutes have made a similar provision in a number of States.

16. **Cultivation of Land, and the Harvesting of Crops.**—A tenant of a farm is bound to cultivate it in such manner as good husbandry requires. If his lease is for an uncertain period, or if it is at will, and is terminated by his landlord, he has a right to harvest such annual crops as he has planted and are growing at the time his lease is ended.

17. **Tenant May Under-let.**—A tenant may under-let, unless there is an agreement that he shall not, but he is still personally bound to the landlord for the rent. He may also assign the whole lease, unless there is an agreement to the contrary. He should notify his landlord of the assignment.

18. **Transfer of a Whole Lease.**—The transfer of a whole lease is an assignment, and is entirely distinct from the transfer of any part less than the whole, or an under-lease. Therefore, a covenant not to do one of these two things, will not prevent a tenant's resorting to the other. Any express covenants made in the lease can still be enforced against him by the landlord; but implied covenants pass with the assignment.

19. **Termination.**—When a lease is for a definite period, the tenant must leave at the end of this period, or the landlord has a right to turn him out.

20. **Tenant at Suffrance.**—If a tenant holds over at the end of a lease, or if he is an under-tenant, and holds over after the lease of his landlord has expired, without the original lessor's consent, he becomes a tenant at suffrance; and the landlord can turn him out without giving him notice to quit. A tenant at suffrance is not liable for rent.

21. **Tenant at Will.**—But where a lease is created orally, or where a tenant holds over, after his lease has

expired, will, that either party notice to quit his intention to leave.

22. **Notice.**—Not given in a length of time notice should be given. Rent is in arrears may be for laws in the at all uniform writing, and is to leave.

23. **Tenant's Interest.**—of his interest same rules as to the one to authorized assignment of landlord might a tenant at will. 24. **Tenant's Liability.**—a tenancy from at will. It is paid yearly, or a lease for a year end of the year

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expired, with his landlord's consent, he is a tenant at will, that is, the lease may be terminated at the will of either party. A tenant at will, however, must have due notice to quit from his landlord, and give due notice of his intention to quit, before he can be turned out or leave.

22. Notice to Quit.—This notice to quit must be given in advance, and usually must be of the same length of time as the period between rent days. The notice should also terminate on a rent day; but if the rent is in arrears, notice may be given at any time, and may be for a shorter time, usually fourteen days. The laws in the different Provs. in regard to notice, are not at all uniform, however. The notice should also be in writing, and should specify the day on which the tenant is to leave.

23. Tenant's Intention to Quit.—A tenant's notice of his intention to quit is in general subject to the same rules as the landlord's notice. It should be given to the one to whom he is liable for his rent, or to his authorized agent. The death of a tenant at will, or the assignment of his lease, would terminate it, though the landlord might treat the assignee of a tenancy at will as a tenant at will.

24. Tenancy From Year to Year.—In most Provs. a tenancy from year to year has grown out of the tenancy at will. It is a general lease made orally, where rent is paid yearly, or at equal parts of a year, and is considered a lease for a year which can only be terminated at the end of the year, by a notice given six months in advance.

If the tenant is allowed to hold over into the second year without notice, he will be considered as holding for this second year; and so on from year to year, until either party terminates it by giving the proper notice. The notice probably need not be for so long a period as six months in some Provs. If the oral lease was made for a definite length of time, it terminates at the end of that time without notice, but may be continued as a tenancy at will, or from year to year. A tenancy from year to year may be assigned. In Massachusetts and Maine tenancies from year to year are not recognized.

25. Fixtures.—Those things which are attached to the premises by the tenant, with a clear intention to remove at the expiration of his lease, may be taken away by him when he leaves. But those things which have been permanently attached, cannot be taken away. The intention of the parties, however, is to govern these removals, especially if that intention is expressed in the lease.

26. What Can be Removed.—There are several tests which indicate, in a general way, what may be removed by a tenant. One test is, if the things are fastened with screws, or in any other way, so that they can be readily removed without injury to the premises. Another test is, if by the removal of the fixtures, he can still restore the premises to the condition in which he found them. It should be said that the law is lenient to tenants, so long as they follow these reasonable rules. Fixtures used in trade or manufacture may almost all be removed, so long as the premises can be substantially restored.

THE LAW AND RULES GOVERNING SALES.

1. A Bill of Sale.—A Bill of Sale is not a document necessary to a sale. A Bill of Sale is used when it is thought best to have some formal instrument showing the transfer, as where one sells his business and his stock in trade to another. An inventory enumerating all articles in detail should be written in the instrument or on sheets annexed thereto and signed. In Ontario a sale of personal property not accompanied by a change of possession should be evidenced by a bill of sale, duly signed with proper affidavits and filed at the County Court within five days of making same.

2. A Sale is an Agreement to Exchange Property for Money Only.—If it is an exchange of property for property, it is a trade or barter and not a sale.

3. Requisites of a Sale.—There are certain conditions that must exist before a sale can take place. First, the property must be in existence; secondly, it must belong to

the seller; thirdly, a particular property must be referred to or set apart.

4. Delivery.—Delivery is not essential to complete a sale, as between the buyer and seller, for the buyer has a right to take the goods when he pays for them, but not until then unless credit is agreed for.

5. Quality.—If there was no express agreement as to quality or fitness, the buyer must take the risk and he is bound to keep the goods he purchased, unless he can show fraud or misrepresentation on the part of the seller.

6. The Sale of Land.—All contracts or agreements for the sale of land must be in writing. The payment of part of the consideration money is not essential to the validity of the contract in Canada, though it is usually customary. Contracts relating to real estate are of a different character from those concerning personal property. By

the Statute of Frauds, no agreement concerning the sale of real estate, or any interest therein, is valid unless immediately executed, or some note or memorandum of the same be made in writing and signed by the party to be charged, or by his authorized agent. The delivery of the deed of conveyance, duly executed, is a conveyance of the title.

7. A Distinction Between a Contract of Sale and a Contract to Sell.—There may be a binding contract between two parties, one agreeing to sell a given thing for a given price, and the other agreeing to buy that thing and pay that price; but still no property is transferred by that contract. Such a contract is executory, and may be entirely valid, even if it relates to the sale of goods not yet manufactured or of produce not yet existing. If I contract to sell the corn I expect to harvest next year for so much per bushel, I am bound to do as I promise, if I have a consideration for that promise; but evidently no title passes to a purchaser, for I as yet have no corn to which I can give a title. This is of the same nature as any other executory contract.

8. Grain and Vegetables.—Grain and vegetables cannot be sold or a Chattel Mortgage given on them until the grain is sown or the vegetables planted.

9. The Seller's Lien.—The seller has a lien on the goods for the price, and may refuse to deliver them until that is paid. But if it was agreed that credit should be received for the goods, the purchaser may demand them without tendering the price. In the case of sale for immediate payment, (which is understood if there is no agreement to the contrary,) and the price is not paid by the buyer, the seller may either rescind the sale, or sell the goods under his lien and look to the purchaser for the balance of the price, if they do not bring the

amount; or if they bring more than the price agreed to be paid, he, selling under the lien, must pay over the surplus to the buyer.

10. Buying by Sample.—If a thing is sold by sample, it is warranted as good as the sample. If the buyer has an opportunity to examine the thing and does not, neither gets an express warranty, he takes the risk and should not afterwards complain. If there is some hidden defect known to the seller, he must disclose it, or at least not conceal it if inquired after by the purchaser. If he diverts attention and evades, and thus deceives the buyer, it is a fraud and would be ground of avoidance.

11. The Buyer's Caution.—In a word, whatever is the subject of a sale, whether real or personal property, the rule "Let the purchaser beware" applies. No one should be influenced by the puffs of owners, the opinion of outsiders, or flattering guesses of anybody. If you have any doubts, demand express warranties in a form to be proved, and if they are refused, then keep your money.

12. No Title.—If a person buys goods of any party, and these goods prove to be stolen goods, the purchaser has no title whatever. If a purchaser buys land, and finds that the seller did not own it and had no claim upon it, the purchaser has no title whatever. Great care should therefore be exercised in buying real estate, and see that there is a good title to it. A few dollars expended in this way may save hundreds.

13. A Sale of Notes, Mortgages, Etc.—Notes may be sold by their proper assignment, provided the notes have not matured. Mortgages can be sold by filling out an assignment, and go before a Notary, and have it acknowledged. Mechanics liens, or any other liens upon property may be sold by the assignment of the claim.

THE LAW AND RULES GOVERNING CHATTEL MORTGAGES.

1. Definition.—A Chattel Mortgage is a sale of personal property as security for some debt or other obligation, on condition that if the money is not paid with interest as agreed upon, the Chattel Mortgage becomes a valid sale of the property which it represents.

2. How to Write a Chattel Mortgage.—The form of a Chattel Mortgage is very simple. A blank may be procured and filled out as shown in this book. But any writing covering the conditions as given in the form is just as good.

*** 3. Chattel Mortgages Must be Filed.**—The Mortgagor or seller usually retains the property mortgaged in his possession. Therefore, in order to protect the mortgagee's or buyer's interest from creditors of the mortgagor or subsequent purchasers from him, the mortgage must be filed in the office of the town or county clerk, according to the statute laws of the place where they are given.

4. Equity of Redemption.—The statutes always provide that the mortgagor shall have a further time after

*8. In Ontario the Chattel Mortgage should be filed in the County Court Office within five days of making sale.

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LAW WITHOUT LAWYERS.—MORTGAGES.

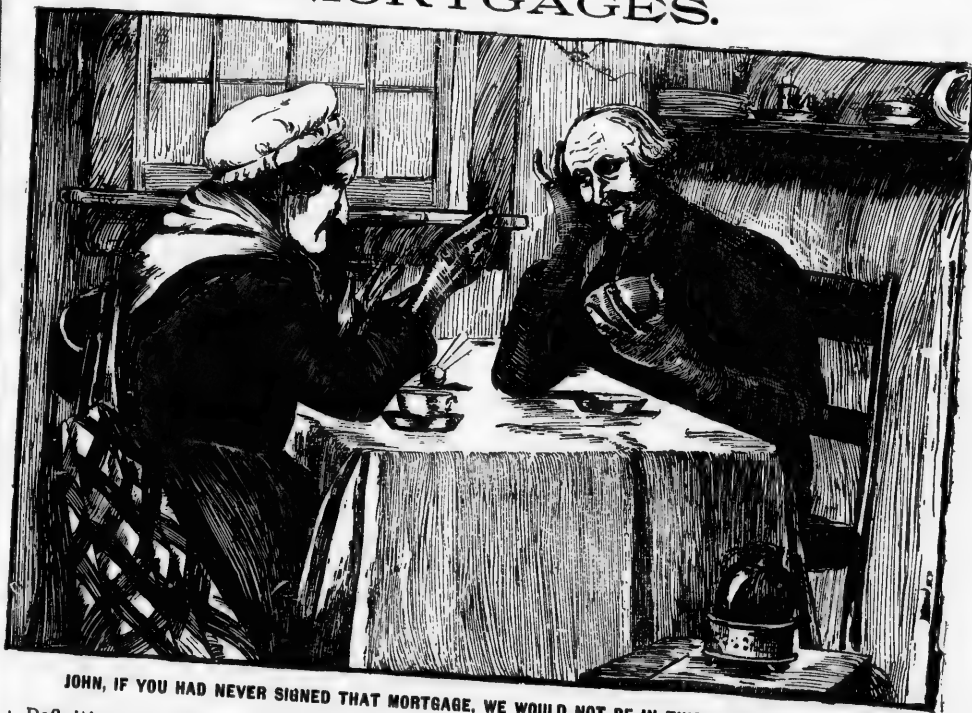
121

the debt is due, in which to redeem the property. This is called an "Equity of Redemption," and is commonly fixed at sixty days. At the end of this time, the mortgagor loses all right to the property. But Chattel Mortgages almost always contain a power of sale, by which the mortgagee may take the property immediately if the debt is not paid at its maturity, and sell it at public auction, or at private sale if the mortgage so provides. If there is a surplus from such sale after payment of the debt and expenses, it belongs to the mortgagor.

5. Stock of Goods.—A merchant cannot mortgage a stock of goods if it is the intention of the parties that he may sell and replace the same in the usual course of business as against creditors. Such a mortgage is good between the parties.

6. Assigning Interest in Mortgaged Property.—The mortgagee may assign his interest in the mortgaged property, and his assignee then acquires all his rights and duties. The mortgagor may also assign his interests in the property, that is, his equity of redemption, subject of course to the rights of the mortgagee.

MORTGAGES.



JOHN, IF YOU HAD NEVER SIGNED THAT MORTGAGE, WE WOULD NOT BE IN THIS CONDITION TO-DAY.

1. Definition.—A mortgage is a conveyance of real estate as security for a debt or other obligation, that becomes void if the debt is paid or the obligation for which it was given is performed.

2. Mortgagor and Mortgagee.—The party giving the mortgage is called the mortgagor, and the one to whom it is given, the mortgagee.

3. Form of Mortgage.—A mortgage is, in form, a deed; and all the formalities of signing, sealing, witness-

ing, acknowledging and recording are necessary to its validity to the same extent as is in case of a deed. A mortgage, however, contains a clause, providing that on payment of the debt with interest, or performance of the obligation on or before a certain date, the conveyance shall be defeated.

4. Foreclosure.—In case the mortgage is not paid, a proceeding may be begun to foreclose, that is to cut off the right of redemption.

5. **Different Methods of Foreclosure.**—There are many different methods in the different States, of enforcing a mortgage, and obtaining a foreclosure. Perhaps the most common mode is by bringing a bill in a court of equity to obtain a decree of the court, that, if payment is not made within a certain time (often a period fixed by statute), the property shall be sold publicly and the proceeds applied to the payment of the debt and the costs of the sale. The surplus, if any, then belongs to the mortgagor. *

6. **A Power of Sale.**—In order that the security may be enforced more promptly than by means of a foreclosure, it is now quite common to insert in mort-

gages a power, by which, if the debt is not paid or the obligation performed when it becomes due, the mortgagee may, after a certain number of days, sell the property at public auction. After reimbursing himself and paying the costs of the sale, the surplus, if there is any, then belongs to the mortgagor.

7. **Assigning a Mortgage.**—A mortgage may be assigned, and the purchaser or the assignee takes the same interest in the property as the mortgagee had, subject to the mortgagor's rights. An assignment should be executed, delivered and recorded in the same manner as a deed.

THE LEGAL PRINCIPLES OF LAW.

1. **Definition.**—A mortgage on real estate is nothing more nor less than a sale of the land on certain conditions. But the sale is not complete if the money is paid for which the mortgage was given. Mortgages are always security for some debt or liability.

2. **Parties.**—Parties signing and giving a mortgage are called the mortgagor. The parties in whose name the mortgage is given are called the mortgagee.

3. **Redemption.**—When the debt for which the mortgage is given is paid, the mortgagor has his rights restored. This right is called the right of redemption, and cannot be taken away without a judicial sale or by the mortgagor's consent. The right remains, with certain limitations, after default in payment of the debt as expressed by the mortgage; and the failure to perform the obligation is compensated by interest.

4. **Foreclosure.**—The cutting off of all the rights to redeem the property is called foreclosure. This can only take place in case the mortgagor fails to meet the payments or agreements of the conditions stated in the mortgage. The Statutes of the State must be strictly followed, or the sale made under foreclosure will not be good.

5. **Deficiency.**—When the mortgaged property is sold by foreclosure and the amount is not sufficient to pay the debt, then suit can be brought against the party for deficiency. The mortgagor's signature on a note secured by a mortgage, does not relieve him from paying the full amount of the note if the property mortgaged is not sufficient to pay it.

6. **Part Payment.**—The holder of a mortgage cannot be compelled to take payment for part of the mortgage when it is all due.

7. **Transfers.**—Whatever transfers the title to the

debt, will also transfer the title of the mortgage, which is the security of the debt.

8. **Assigning Mortgages.**—The proper mode of assigning a mortgage is by endorsing the assignment or transfer upon the mortgage, or by a writing referring to and describing it. If the purchaser has no such writing, he cannot foreclose under the power of sale, but he can have the same remedies in equity by way of court proceedings.

As a general rule, the assignee of a mortgage becomes owner in all the rights of the mortgaged premises which the assigner possessed as mortgagee.

9. **Renewing the Notes of a Mortgage.**—If the mortgage is given to secure the payment of certain promissory notes, and the notes are renewed and the time of payment thereby extended, such renewal is not a satisfaction of the original debt, of which the notes are only the evidence, and that to take a new or substituted note does not pay the debt.

10. **Execution.**—The mortgage should be signed by the mortgagor and witnesses the same as a deed and delivered to the mortgagee.

11. **Acknowledgment.**—It should be acknowledged as a deed is, and with the same formality. The acknowledgment of a mortgage is made for the same purpose as the acknowledgment of a deed; that is, to put the instrument in a condition for record.

12. **Recording.**—The mortgage must be recorded in the county where the real estate is situated. Otherwise it is not good. A recording is not necessary as between the two parties who make the contract, but in case of transfer, or loss of papers or burning of the mortgage it is always best to have it recorded.

* In Ontario an order of foreclosure may be obtained by which, if the property be not redeemed by payment within six months, the Mortgagor's title will be foreclosed and the property will belong to the Mortgagee absolutely.

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PROPERTY THAT CANNOT BE TAKEN FOR DEBTS.

123



Liabilities for the Debts.—A certain amount of property is now, by the provisions of the Statutes of the various Provinces, exempt from the

liability for the debt of the owner, and cannot be taken by the sheriff on execution. The amount varies greatly, some Provinces being more liberal than others. The exemptions from seizure under execution and distress are enumerated in the Revised Statutes, Chap. 64, and consist generally of:

IN ONTARIO.—1. Bed, bedding and bedsteads in ordinary use.

2. Necessary and ordinary wearing apparel.

3. One cooking stove with pipes, 1 heating stove with pipes, sewing machine, 30 vol. books, all spinning wheels and weaving looms, and a large number of articles of furniture, cooking utensils, etc., in all not to exceed the value of \$150.

4. All necessary fuel, meat, fish, flour and vegetables not more than sufficient for the ordinary consumption of debtor and family for 30 days, and not exceeding in value the sum of \$40.

5. One cow, 6 sheep, 4 hogs and 12 hens, in all not to exceed the value of \$75; also food for them for 30 days.

N.B.—Some of the exemptions in Manitoba are additional to those which were exempt before 1st March, 1894, and such as are additional to those are not exempt in respect of debts, obligations and liabilities which became due or were accruing due before 1st March, 1894.

6. Tools and implements of, or chattels ordinarily used in the debtor's occupation, to the value of \$100.

7. Bees reared and kept in hives to the extent of fifteen hives. On the death of the debtor these goods go to the widow and family.

IN QUEBEC.—Beds, bedding and bedsteads used by the family; their wearing apparels; two stoves and their appendages; cooking utensils and furniture up to \$50; a sewing machine if used for earning money; fuel and food for three months; a span of horses or yoke of oxen, 1 cow, 2 pigs, 4 sheep, plough, harrow, cart, etc., tolls up to \$30; any money or objects given or bequeathed for ailment or on condition of their being exempt from seizure.

IN NOVA SCOTIA.—The necessary wearing apparel and bedding of the debtor and his family, and the tools or instruments of his trade or calling, one stove and his last cow are exempted from execution.

IN NEW BRUNSWICK.—The wearing apparel, bedding, kitchen utensils and tools of his trade or calling to the value of \$100. The interest of the Allottee in free grant land is exempt.

IN PRINCE EDWARD ISLAND.—The necessary wearing apparel and bedding of the debtor and his family, and the tools or instruments of his trade or calling, and his last cow, altogether not exceeding the value of \$50 are exempt.

IN MANITOBA.—1. Bed and bedding in common use, and household furniture not exceeding the value of \$500.

2. Necessary and ordinary clothing of the debtor and family.

3. Twelve volumes of books, the books of a professional man, 1 axe, 1 saw, 1 gun, 6 traps.

4. Necessary food for debtor and family for 11 months.

5. Three horses, mules or oxen, six cows, 10 sheep, 10 pigs, 50 fowls, and food for same for 11 months. Horses must be used by debtor to earn his living.

6. The tools, agricultural implements and necessities used by the debtor in his trade or profession to the value of \$500.

7. Articles of furniture necessary for performance of religious services.

8. The land upon which the debtor actually resides or cultivates or uses for grazing and other purposes; provided same does not exceed 160 acres.

9. House, stables, barns and fences on the debtor's farm.

10. All necessary seeds for cultivation of eighty acres.

11. Actual residence of debtor other than a farmer, provided same does not exceed value of \$1,500.

IN NORTH-WEST TERRITORIES.—1. Necessary and ordinary clothing of debtor and his family.

2. Furniture and household goods to value of \$500.

3. Necessary food for debtor's family for six months.

4. Two cows, 2 oxen and 1 horse (or 3 horses or mules), 16 sheep, 2 pigs, besides animals kept for food purposes, and food for same from November to April.

5. Harness for 3 animals, 1 wagon or 2 carts, 1 mower or cradle and scythe, 1 breaking plough, 1 cross plough, 1 set harrows, 1 horse rake, 1 sewing machine, 1 reaper.

6. Books of a professional man.

7. Tools and necessities used by debtor in his trade or profession.

8. Seeds, grain sufficient for all land under cultivation, not exceeding 80 acres, and 14 bushels of potatoes.

9. The homestead of debtor up to 160 acres.

10. The house and building occupied by debtor, and lot on which they are situated, to the value of \$1,500.

IN BRITISH COLUMBIA.—1. Wearing apparel of debtor and family.

2. Bed and bedding and household utensils not exceeding value of £10.

3. Tools and implements of trade up to £10.

LAW CONCERNING WILLS.

1. **Definition.**—A Will or Testament is a written document by which the owner of property directs how it shall be owned or disposed of after his death and includes a codicil and any other testamentary disposition. A Codicil is a supplementary Will adding to, altering or revoking an existing Will and must be executed by the same formalities as are necessary for a Will. A person making a Will is called the testator, if a man, and the testatrix, if a woman. A person dying without having made a valid Will is said to die intestate. The male representatives of an intestate are called heirs and the female heiresses. Personal property given by a Will is called a bequest, and real or landed property a devise. A person to whom a bequest is given is called a legatee and one to whom a devise is made a devisee. Real estate includes houses, lands and rents, any share, right, estate, or interest therein. Personal estate extends to leasehold estates, moneys, funds, mortgages, and securities, rights, debts, credits, goods and any share or interest therein. A mortgage includes any lien for unpaid purchase money and any charge, incumbrance or obligation of any nature whatever upon any lands or tenements of testator or intestate.

2. **Form of Will.**—Formal words are not necessary to a Will. Any person may draw his or her own Will. All real and personal estate to which a testator is entitled at the time of his death and which if he died intestate would devolve on the heirs or personal representatives, may be disposed of by Will.

3. **Who can Make a Will.**—Any person of sound mind and 21 years of age can make a Will. No Will made by any person under 21 years of age is valid. A married woman may dispose of her separate estate by Will. As a wife cannot be deprived of her right to dower, which is a life estate of one-third interest in all the lands of which her husband was seized at the time of their marriage or anytime afterwards, a devise or bequeath made to her in lieu of dower must be clearly so expressed or she may become entitled to both.

A father may by Will appoint a guardian of his infant

children who will be entitled to the custody of their persons and estates until they attain 21 years of age.

4. **Who Cannot Make a Will.**—Persons of unsound minds, idiots, insane from disease, are not considered able to make a Will, and the Will if drawn up is void. The Will of a deaf or dumb or a blind person, however, is good and valid; so is that of a person given to drunkenness, unless he was not in possession of his faculties when the Will was made. If the testator is able to understand the nature and amount of his property, the claims of others on the same, and make up his mind as to the disposition of it without prompting, he is considered of sufficient mental ability to dispose of it by Will.

5. **Validity of Will.**—No Will is valid unless in writing and signed at the foot or end thereof by the testator or by some other person for him at his request and in his presence and such signature must be made or acknowledged by the testator in the presence of two or more witnesses, both being present at the same time, who must subscribe their names to the Will in the presence of the testator. A seal is not essential to the validity of a Will and a properly executed Will is valid without any other publication. No valid demise or bequest can be made to an attesting witness or the wife or husband of a witness. Creditors and executors may be lawful witnesses. A Will does not come into operation until the death of the testator and takes effect as if made immediately before such death. Wills should always be written on good paper or parchment.

In Manitoba a Holograph Will, that is one entirely written and signed by the testator, requires no particular form or any attesting witness.

6. **May be Revoked.**—A Will may be altered, added to or revoked in whole or in part at any time before the death of the testator. A will may be revoked by the testator or someone else by his direction, destroying it by burning, or tearing it with intent to revoke it or by executing a new Will revoking it. The last Will annuls all former Wills. Every Will is revoked as such by the marriage of the person making same.

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5. **Who May** to become an executor. Certain the property of persons; and the objection can be husband's estate renounce that right

6. **Duty of Executor** is to have the Will the county in which death and to be in court, otherwise for interfering with An executor not his right before appointment

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It is a wise precaution under the direction of an estate, as there constantly arising from a professional person can

THE DUTIES OF EXECUTORS AND ADMINISTRATORS.

1. **The Executor.**—The executor is a person appointed by the maker of a Will to take charge of the property at his death and to carry out the conditions and instructions of the Will. The person appointed is called an executor if a man, and an executrix if a woman.

2. **The Administrator.**—The administrator is a person appointed by the Surrogate Court to take charge of the estate of a deceased person who has left no valid Will, and to distribute the property to the heirs according to law. The property of an intestate will be distributed according to the law of the Province where the same is situated.

3. **Bonds.**—Administrators are compelled to give bonds for the faithful performance of their duties. The bond is in the amount of double the value of the property left in their hands for their disposal and must be given by two bondsmen, each of whom must make an affidavit stating that he is worth double the value of the estate. Executors are seldom required to give bonds.

4. **Who Can be an Executor.**—In order to be qualified to become an executor a person must be of full age and in the possession of all his faculties. No person incapable of making a contract can be an executor. A person under twenty-one years of age, or a citizen of another country not residing in this country, or one who has been convicted of an infamous crime, such as murder or theft, or anyone who is guilty of habitual drunkenness, or dishonesty, or imprudence, or is wanting in mental capacity, should not be appointed.

5. **Who May be an Administrator.**—The same qualifications are necessary for administrators as in the case of executors. Certain persons are entitled to administer the property of the deceased in preference to all other persons; and they must be appointed, unless some valid objection can be urged against them. A husband is entitled to administer his wife's estate and a wife her husband's estate in priority to others and they must renounce that right before anyone else can be appointed.

6. **Duty of Executor.**—The first duty of an executor is to have the Will duly proved in the Surrogate Court of the county in which the testator was domiciled at his death and to be regularly appointed as executor by such court, otherwise he may render himself personally liable for interfering with the estate.

An executor not wishing to act as such may renounce his right before appointment.

7. **Important.**—Executors and administrators must keep a strict account of all dealings with the estate and are required to prove such accounts with vouchers within 18 months of their appointment or sooner if thereunto required. After payment of all debts and legacies the residuary legatee and if none is named then to those next entitled.

It is a wise precaution for an executor to consult and act under the direction of a competent solicitor while managing an estate, as there are so many matters of importance constantly arising respecting his duties which no unprofessional person can be expected to have knowledge of.

8. **Appraisal and Inventory.**—On application of the executor, appraisers are appointed to estimate the value of the estate. Notice may be given to all the interested parties. An inventory of all the personal property is then drawn up. Property exempt from execution is included in this inventory, though it was not liable for the testator's debts during his lifetime. All debts due the estate, bonds, mortgages, notes, accounts, money, etc., must be especially mentioned and described. The inventory is signed by the appraisers and returned to the office of the court. The course to be followed is the same in the case of administrators. This course is not usually adopted in Canada, but instead the executor makes an inventory of the property which he verifies by affidavit and files in the Surrogate Court with the application for probate.

9. **Payments of Debts.**—In order to avoid personal liability to creditors the executor or administrator should give notice, by publication in the newspapers, for all creditors to present their claims against the estate of the deceased in writing. In addition to this, copies of the notice should be sent by mail to all known creditors. The creditors must obey this notice within the time limited in the notice, or they cannot complain in case the executor or administrator has paid over all the assets of the estate to those who have presented their claims.

10. **Order of Payment.**—A testator's property is primarily liable for his debts, funeral and testamentary expenses which shall be paid before any part of the estate is distributed. Executors are allowed one year from the death of the testator in which to collect the assets and pay the debts on an estate before the payment of legacies can be enforced, though they should perform their duties as expeditiously as possible.

11. **Powers of Executors and Administrators.**—If there is not enough money to pay the debts and legacies, the executor may sell sufficient personal property to raise the money to do so. The real estate must be sold if necessary. The sale must generally be public, at auction. The Will, however, frequently confers the right of private sale on the executor. An executor or administrator has no right to carry on the business of the testator. If he does he is personally liable for the debts contracted in the business.

12. **Should not Sign Notes.**—Negotiable paper should not be issued by an executor or administrator in the name of the estate. He is personally liable on such paper if the assets of the estate are not sufficient to meet it. To relieve himself of this liability he may add to the note the words, "if assets are sufficient." He is then not liable, but such a note is not negotiable.

13. **Compensation.**—Executors and administrators are entitled to compensation for their services. They are generally given, in most Provinces, a commission, though upon a certain stipulated amount. But more commonly a rule prevails that the amount of commission be fixed by law, and is generally fixed at 5% on the property passing through the executor's hands.

THE LAW ON HIRED HELP.

HOW TO WRITE CONTRACTS AND MAKE AGREEMENTS WITH HIRED MEN.

1. Form of Contract:—

This Agreement, Made this *First* day of *March, 1894*, between *Jacob Barnes*, of the *Town of Hubbard, Dodge County, Wisconsin*, of the first part, and *Samuel Jones*, of the *same place*, of the second part, witnesseth as follows: The first party hereby agrees, to employ the second party to work for him, as *laborer*, for *Eight months*, from and after *May 1st, 1894*, for the sum of *\$18 per month*, and to furnish him, the second party, board, lodging, etc. The second party agreeing to work faithfully for the first party during the time and upon the terms above mentioned.

Witness our hands, this *1st day of March, 1894*.

Jacob Barnes.
Samuel Jones.

2. Importance.—A great deal of trouble is often developed, by not having a definite and plain understanding with the hired man; when the agreement is made, either the time for which he is hired is not certain, or the specific terms of the agreement are not definitely made, or fully understood by both parties.

3. Written Contract.—A written contract with a hired man is not absolutely necessary, but it is always best. To make a bargain orally in the presence of a disinterested party, so that no difficulty may arise in reference to the agreement, is the next best way. An oral agreement made without a witness is always to be condemned.

4. A Written Account.—Always have a regular account of a hired man, keeping record of the time he begins work, and the date and amount of money drawn, time lost, etc., and in case of any question as to the settlement, the account book then can be taken into court as evidence. When opening an account with hired men, always state the terms of the contract; state plainly the time for which he is hired, the amount per month, and the date that he begins work; and have the hired man sign it or get him to acknowledge it in the presence of some one, not your wife.

5. Non-Performance.—If a man is hired for nine months or for a year for a specified sum, he will be compelled by law to serve his full time, unless he can show



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good reasons for not doing so. If he can prove that he has been ill-treated, or the party for whom he works has not properly performed his part of the agreement, then he may stop work at any time and collect the full amount of his services for the time which he has worked; otherwise, if the hired man should leave before he has served his full time on his own responsibility and without good cause, he could not collect wages for the time he has served. But most of the statutes in the different States provide that the laboring man may collect his wages, no matter what the agreement as to time of service might be, but the amount of damages that can be proven against him are taken out of the amount of money his due. If a hired man leaves the man for whom he is at work at a disadvantage, the hired man must pay whatever damage can be proven by his employer.

6. Hiring by the Month.—If a man is hired by the month, without any definite time specified, he can quit work at the end of any month and collect the amount his due to date. For instance: If A hires out to B for \$20 a month and no specified time is stated as to how long he shall serve, A can stop at the end of any month and collect compensation for the full time he has served.

7. Compensation for Full Time.—If a man has been hired for nine months in some certain line of employment and he is discharged without good cause before

his time expires, he can collect wages for the entire time for which he was hired. No hired man can be discharged without good cause. It must be shown that he has been unfaithful and failed to meet the terms of the agreement. Unless good cause can be shown he is entitled to the full amount for the entire time he hired out, but he must offer his services and be willing to go on and perform his part of the agreement.

8. Safe Rule.—Law-suits are expensive. It is always best to make an agreement in such a way so that no complication can arise between employer and employed. If you hire a man and he is not satisfactory, pay him for what he has done and discharge him, and settle the matter at once and for all time. If a hired man is discontented and does not care to serve out his time, it is best to compromise and pay him off and let him go. The service of a discontented man is never satisfactory, and he who insists on keeping a man against his will is losing money every day. If a man is not willing to perform his part of the agreement, he is not a safe and successful man to keep upon the premises. Ship him without delay and get rid of him at all hazards.

9. Hire Good Men.—Hire good men and pay good wages. It is always the cheapest in the end.

10. Receipts.—When settling with a hired man or with any of your neighbors, always take a receipt in full.



Take one hundred of our most noted men, and select one hundred of our most popular millionaires, and you will find, almost without an exception, that forty years ago they began life without a dollar, and worked as hired men to earn their first start in life.



— Raising Ducks is One of the Most Profitable Industries in Modern Times. —

MANUAL

TABLE OF WAGES

AT GIVEN RATES

TABLE OF WAGES

AT GIVEN RATES PER MONTH OF TWENTY-SIX DAYS.

MONTHLY WAGES TABLE.

Days	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$11	\$12	\$13	\$14	\$15	\$16	\$17	\$18	\$19	\$20
1	.08	.12	.15	.19	.23	.27	.31	.35	.38	.42	.46	.50	.54	.58	.62	.66	.69	.73	.77
2	.15	.23	.31	.38	.46	.54	.62	.69	.77	.85	.92	1.00	1.08	1.15	1.23	1.31	1.38	1.46	1.54
3	.23	.35	.46	.57	.69	.81	.92	1.04	1.15	1.27	1.38	1.50	1.62	1.73	1.85	1.96	2.08	2.19	2.31
4	.31	.46	.62	.77	.92	1.08	1.23	1.38	1.54	1.69	1.85	2.00	2.15	2.31	2.46	2.62	2.77	2.92	3.08
5	.46	.69	.92	1.15	1.38	1.62	1.85	2.08	2.31	2.54	2.77	3.00	3.23	3.46	3.69	3.92	4.15	4.38	4.62
6	.54	.81	1.08	1.35	1.62	1.88	2.15	2.42	2.69	2.96	3.23	3.50	3.77	4.04	4.31	4.58	4.85	5.12	5.38
7	.69	1.04	1.38	1.73	2.08	2.42	2.77	3.12	3.46	3.81	4.15	4.50	4.85	5.19	5.54	5.88	6.23	6.58	6.92
8	.85	1.27	1.69	2.12	2.54	2.96	3.38	3.81	4.23	4.65	5.08	5.50	5.92	6.35	6.77	7.19	7.62	8.04	8.46
9	.92	1.38	1.85	2.31	2.77	3.23	3.69	4.15	4.62	5.08	5.54	6.00	6.46	6.92	7.38	7.85	8.31	8.77	9.23
10	1.00	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00
11	1.15	1.74	2.31	2.88	3.46	4.04	4.62	5.19	5.77	6.35	6.92	7.50	8.08	8.62	9.15	9.69	10.23	10.77	11.31
12	1.31	1.97	2.62	3.27	3.92	4.58	5.23	5.88	6.54	7.19	7.85	8.50	9.15	9.81	10.46	11.12	11.77	12.42	13.08
13	1.46	2.19	2.92	3.65	4.38	5.12	5.85	6.58	7.31	8.04	8.77	9.50	10.23	10.96	11.69	12.42	13.15	13.88	14.62
14	1.62	2.42	3.23	4.04	4.85	5.65	6.46	7.27	8.08	8.88	9.69	10.50	11.31	12.12	12.92	13.73	14.54	15.35	16.16
15	1.77	2.65	3.54	4.42	5.31	6.19	7.08	7.96	8.85	9.73	10.62	11.50	12.38	13.27	14.15	15.04	15.92	16.81	17.69
16	1.92	2.89	3.85	4.81	5.77	6.73	7.69	8.65	9.62	10.58	11.54	12.50	13.46	14.42	15.38	16.35	17.31	18.27	19.23
1mo.	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00
2 "	4.00	6.00	8.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00
3 "	6.00	9.00	12.00	15.00	18.00	21.00	24.00	27.00	30.00	33.00	36.00	39.00	42.00	45.00	48.00	51.00	54.00	57.00	60.00
4 "	8.00	12.00	16.00	20.00	24.00	28.00	32.00	36.00	40.00	44.00	48.00	52.00	56.00	60.00	64.00	68.00	72.00	76.00	80.00
5 "	10.00	15.00	20.00	25.00	30.00	35.00	40.00	45.00	50.00	55.00	60.00	65.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00
6 "	12.00	18.00	24.00	30.00	36.00	42.00	48.00	54.00	60.00	66.00	72.00	78.00	84.00	90.00	96.00	102.00	108.00	114.00	120.00
7 "	14.00	21.00	28.00	35.00	42.00	49.00	56.00	63.00	70.00	77.00	84.00	91.00	98.00	105.00	112.00	119.00	126.00	133.00	140.00
8 "	16.00	24.00	32.00	40.00	48.00	56.00	64.00	72.00	80.00	88.00	96.00	104.00	112.00	120.00	128.00	136.00	144.00	152.00	160.00
9 "	18.00	27.00	36.00	45.00	54.00	63.00	72.00	81.00	90.00	99.00	108.00	117.00	126.00	135.00	144.00	153.00	162.00	171.00	180.00
10 "	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00
11 "	22.00	33.00	44.00	55.00	66.00	77.00	88.00	99.00	110.00	121.00	132.00	143.00	154.00	165.00	176.00	187.00	198.00	209.00	220.00
1 year	24.00	36.00	48.00	60.00	72.00	84.00	96.00	108.00	120.00	132.00	144.00	156.00	168.00	180.00	192.00	204.00	216.00	228.00	240.00

THE LAW OF HIRING, LENDING AND BORROWING.

1. Bailments.—Bailment is a legal term applied to almost anything that may be borrowed, or loaned, or hired, or placed in trust for other parties. The person delivering the goods is called a bailor, and the party to whom they are delivered or loaned is the bailee. Real estate cannot be brought under this head.

2. In Trust.—Goods must be delivered in trust in some form, in order to come under the head of bailments.

3. Delivery.—If a horse be borrowed and used, and returned with or without compensation for use; or to be kept and returned at a given time, or when required; or to be shod for the owner; or to be trained or treated for disease, is in law called a bailment. Delivery of a book to be read, or bound, or cleaned, or trimmed, or stored; or the delivery of a watch to be repaired; or the loaning of a wagon, a sleigh, buggy, or any other personal property, are all examples of bailments. Hence the delivery of goods of any kind for any purpose where the party receiving them is not the owner, is a case of bailments.

4. Required Care.—The care of borrowed or hired articles that come under the law of bailments are divided into three degrees, as follows:

First, Slight care, or that degree of care which a heedless man exercises over his own things. A failure to exercise this care is gross neglect.

Second, Ordinary care, or that degree of care which one of ordinary prudence takes of his own things. A failure to exercise this care is ordinary neglect.

Third, Extraordinary care, or that degree of care which a very careful man, one of more than ordinary prudence and caution, would exercise concerning his own things. A failure to exercise this degree of care is slight neglect.

5. Care and Neglect.—The lines between these different degrees of care and neglect are by no means easily drawn. What is ordinary care, for example, will depend upon the circumstances of each individual case; and whether the bailee or borrower has failed to exercise that care required of him, is a question of fact for a jury to decide according to the evidence. It is plain that the care which would be ordinary if exercised concerning a bag of gold or case of jewelry, would be very extraordinary if exercised toward an iron kettle; and the extraordinary care of a barrel of salt might be very gross neglect of a package of money, if both salt and money were the objects of the same care.

6. A Deposit.—Any one who is the owner or lawful possessor of goods may deposit the same, and demand them again; but the owner always has a right to demand and receive them by whomsoever they may have been

deposited. If goods are deposited by one legally incompetent to bind himself by contract, the deposit is not good. It must be remembered that in all contracts the legal competency of the parties is essential. All persons under age are not qualified to make a contract. But if they make a deposit of money or property, their parents or guardians can secure the same for them.

7. The Depositary.—The person receiving goods on deposit is bound to exercise slight care only if he is not benefited by the deposit, and the benefited party is required to sustain most of the risk; he is liable, however, for gross negligence only.

8. Delivery on Demand.—The deposit must be delivered up when demanded, and if the delivery is refused, the depositary is immediately responsible for its safety, and may be required to pay for it on charge of appropriating the property. But if he has been subjected to the payment of expense for the safety of the deposit, he is entitled to reimbursement before delivering up the same. For example, a cask of oil or other liquid is the subject-matter of a deposit, and the hoops had to be renewed to save it from loss. The person in whose care it was placed is entitled to receive the amount of his outlay for repairing the cask.

9. Loan for Use.—Loan for use is a bailment of a thing to be used by the borrower without paying for the use of it. In this case of bailment the bailor is called the lender, the bailee is the borrower, and the bailment is called the loan.

10. Conditions of the Loan.—First, there must be a thing which lent being personal property. Second, it must be lent gratuitously; for if any compensation is to be paid it is another kind of bailment. Third, it must be lent for use and for the use of the borrower.

11. Rights of the Borrower.—The rights of the borrower are strictly confined to the use actually or impliedly agreed to by the lender and cannot lawfully be exceeded. The use may be for a limited time or for a time indefinite.

12. To Be Specifically Returned.—The property must be lent to be specifically returned to the lender when the bailment is determined. It is certain that where a thing is "loaned" for consumption, such as flour, it is not a bailment, but a gift or a trade, the equal amount to be returned.

13. Barter.—Barter is the exchange of one commodity for another; and the bread that in common language is "borrowed" is really exchanged for other bread which is

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to be delivered at a future time. That specific article is not to be returned.

14. Time and Purpose.—In general the borrower has the right to use the thing during the time and for the purpose named by the parties, but he must not go beyond or outside that intention in any degree or he makes himself liable. If a horse is borrowed or hired to go to a certain town, no other place may be visited without liability for damages.

15. Cannot Lend to a Third Party.—A gratuitous loan is a strictly personal trust, unless from other circumstances a different intention may fairly be presumed. The borrower cannot lend to a third party. If he borrows a horse to ride he must not permit others to ride it. The lender may be willing to entrust his horse to the borrower, but may not feel disposed to entrust it to another party.

16. Liability.—The borrower is under obligations to take proper care—extraordinary care—of the thing borrowed; to use it according to the intention of the lender; to restore it at the proper time, and restore it in proper condition. Slight neglect will make him liable, as he alone is benefited by the bailment. He is generally exempt from liability for loss from inevitable accidents, and such as human prudence by extraordinary care could not guard against, such as tornadoes, earthquakes, etc.

17. Recovery Before the Expiration of the Time Loaned.—A question now arises whether the lender could demand and recover the thing loaned before the expiration of the time for which it was loaned. The general rule may be stated to be, that as the bailment is without compensation, the lender may terminate it whenever he pleases; but if he does so unreasonably, and it occasions any loss or injury to the borrower, the latter may, perhaps, have a suit for damages where the object of the bailment has been partly accomplished.

18. Returning Things Borrowed.—The borrower must return the thing borrowed at the residence or place of business of the lender where he obtained it, or where it naturally belonged. If the lender had in the meantime removed, the borrower would not be required to follow him to return it unless the difference in distance was only trifling.

19. Must be Returned in Good Condition.—The thing loaned must be returned in good condition as it was when borrowed, the natural wear excepted. If it were returned very materially damaged the owner may refuse to receive it; but it is otherwise if the damage is inconsiderable. Where the acts causing damage amounts to a wrong done and conversion of the property, the owner may refuse to receive it, and recover the full value of it in an action.

20. Expenses.—The borrower will be entitled to recover for extraordinary outlay to preserve or repair the property. If a coach required a new wheel it would be an unusual expense, and would be charged to the lender; while feeding or shoeing a team is an ordinary expense and must be borne by the borrower. The borrower has a lien upon the thing until these extraordinary expenses are paid. The lender could not excuse himself from payment by refusing to receive the property; nor by the subsequent destruction of it; nor by a restitution of it by the borrower without insisting upon payment.

21. Contract of Hire.—Contract of hire is a bailment in which the bailee is to use the thing bailed, or to do service about it, for a compensation. The bailor is called the "letter to hire," and the bailee is called "the hirer." By these names we shall distinguish them hereafter.

22. Essentials of the Contract.—The essentials of the contract are as follows: There must be the thing in existence which is the subject-matter of the bailment; it should be a thing capable of being let; the bailee should have a right to use, enjoy and possess it during the period for which it was let; there should be a price for the hire; and a contract possessing legal obligations between the parties.

23. Ordinary Care.—As the parties are mutually benefited, the borrower is to exercise ordinary care, and would be answerable for ordinary neglect only, as he pays for the use of the article, ordinary care only is necessary.

24. Must Not Be Prohibited by Law.—The bailment must be such as is not prohibited by law; as those against sound morality, against public policy, or those positively forbidden. If a locksmith lets tools to thieves and burglars to enable them to enter houses for the purpose of stealing goods, the bailment would have no legal force or existence. The principles governing contracts can be applied here in this case.

25. The Hire of Things.—The letter is obligated to deliver the thing to the hirer; to refrain from every obstruction to the use of it by the hirer, during the period of the bailment; to do no act which shall deprive the hirer of the thing; to warrant the title and right of possession to the hirer; to warrant the thing free from any fault or defect inconsistent with the proper use of it; and to keep it in repair for the purpose of the bailment.

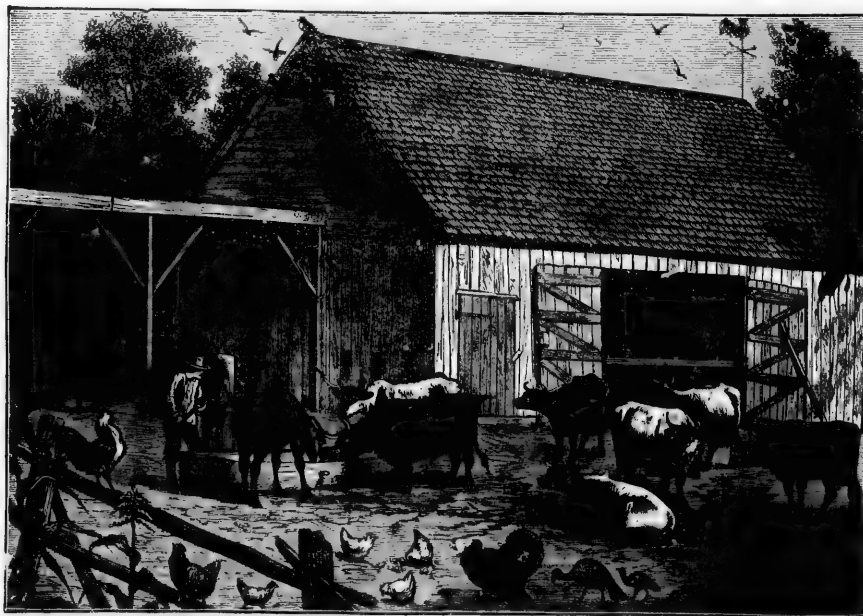
26. The Obligations of the Hirer.—The hirer is obligated to use the thing for the purpose of the bailment, and that only; to take ordinary care of it while the bailment continues; to return it when the bailment expires, in as good a condition as when he received it, natural wear excepted; and to pay the stipulated price,

or a reasonable price if none was agreed upon. The hirer is not presumed to break, or injure the thing by using it for purposes contemplated by the parties, with ordinary care unless it was defective. If by the hirer's fault the injury is done, he is to repair it; otherwise not.

27. Dissolution.—The contract of hire is dissolved by the expiration of the time, or the accomplishment of the thing for which the contract was made; by the loss, or destruction, of the thing by inevitable casualty; by a voluntary dissolution by the parties; by operation of law,—as where the hirer became the proprietor by purchase, gift, or inheritance. When this contract is dissolved from any cause, it does not affect the obligation already incurred, but only those that might otherwise be incurred in the future.

28. The Hire of Labor and Services.—The parties are called employer and employee. The employer is, in general, obligated to pay the compensation; to pay for all proper new and accessorial materials; to do all on his part to enable the workmen to execute their engagement, and to accept the thing when it is finished.

29. The Employee.—The employee is obligated to exercise the skill in any given case required; to perform the labor well and by the time stipulated, or if no time was agreed upon, then in a reasonable time; if materials are put into his hands, to guard them against ordinary hazards, and to exert himself to preserve them from any unusual or expected danger; to deliver the thing about which the service is done, when the same is completed, and in all respects fulfill his legal agreements which may have been made on the premises.



THERE IS ALWAYS PROFIT IN GOOD FARMING.



A LAW-SUIT
pull

ARBITRATION

1. Litigation and discouragement of luxury, even the
2. Arbitration controversy to persons, it is called other persons to whom and the decision called an award.
3. Form of subject of arbitration acts cannot be settle difficulties

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A LAW-SUIT IN PROGRESS.—This illustrates the Principles and Philosophy of a Law-suit. The two contestants are pulling with all their strength to gain the case, while the lawyer gets all the benefit that is in the trial. The contestants simply hold the cow while the lawyer does the milking.

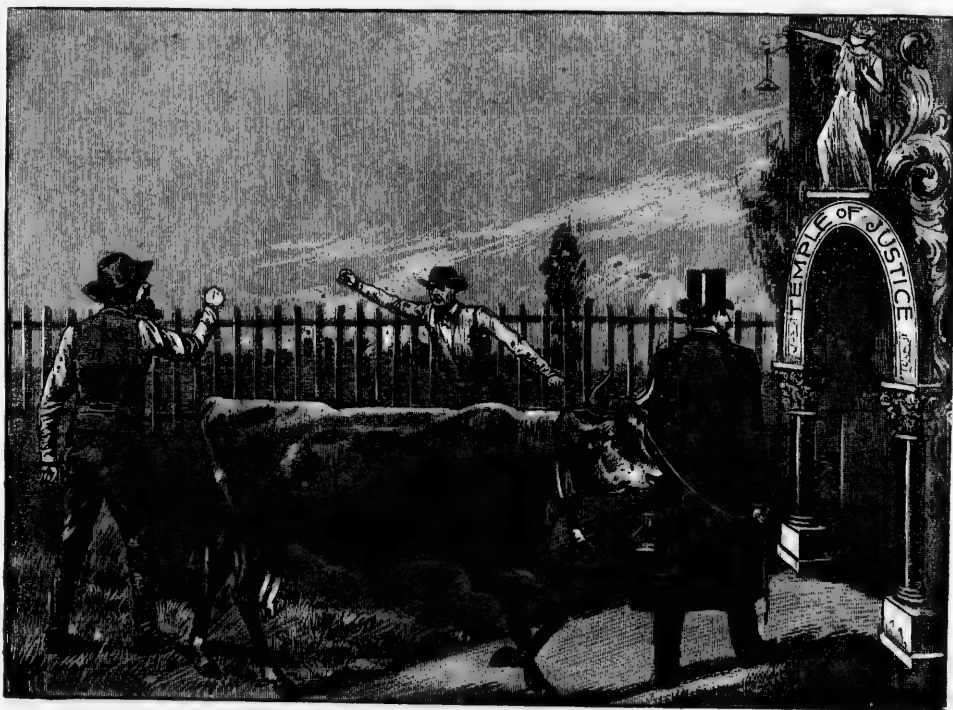
STOP AND THINK BEFORE YOU SUE YOUR NEIGHBOR. ARBITRATION.—OR, HOW TO SETTLE DIFFICULTIES WITHOUT GOING TO LAW.

1. **Litigation.**—It is always best for people to avoid and discourage litigation. Law-suits are an expensive luxury, even though the suit is won.
2. **Arbitration.**—When persons refer any matter or controversy to the decision of one or more disinterested persons, it is called arbitration. This act of referring it to other persons is called submission, and the person or persons to whom the matter is left are called arbitrators, and the decision made by them after due consideration is called an award.
3. **Form of Submission.**—Anything may be the subject of arbitration which is not criminal. Criminal acts cannot be settled by arbitration. The best way to settle difficulties between two parties is for each to ap-
- point one disinterested person, and then the two thus selected appoint a third party, and the three then consider the statement of the contending parties and their witnesses, if any, and after hearing both sides of the case they then can decide upon the terms of an award.
4. **Conditions.**—A court of equity will not compel any person to carry out an agreement to submit the difficulty to arbitrators, but when the difficulty has been once submitted for settlement by mutual consent of both contending parties, the decision of the arbitrators will be held as good and binding, unless some fraud or mistake has entered into the decision.
5. **Compulsory Performance.**—If either party, after the terms of settlement have been announced by the ar-

bitrators, refuses to perform his part, then by law he can be made to carry out the conditions of the award or pay damages for non-performance; and the suit, if brought into court, must be on the non-performance, and not on the original claim. The original claim cannot be tried.

6. **Save Money.**—Do not go to law because you have a little difficulty with your neighbor. Make a proposi-

tion to him to leave it out to disinterested parties, and if he will not settle upon these terms, then you have no other redress but a court of justice. But very few men, if they are approached properly, will refuse to leave the points of controversy to disinterested parties, and thereby much time and much money will be saved, and many hard feelings avoided.



AFTER THE LAW-SUIT.—The lawyer takes both the cow and the milk, and leaves the two contestants to fight it out among themselves.

LEGAL RIGHTS AND WRONGS.

1. **Judge Made Law.**—The decisions of our highest courts of final resort are evidences of the law, for there is no such thing as "judge made law." The courts cannot make the law; they simply expound what they find to be law.

2. **The Boast of the Law.**—It is the boast of the law that every wrong has its redress, and this redress is worked out through the agency of implied contracts. If

one construction of an implied contract would be frivolous and the other reasonable, the reasonable construction is the one the law would take. The general rule of law is, that no implied meaning will be given where an expressed one has been made.

3. **Gift of a Promissory Note.**—If a father were to give his promissory note for five hundred dollars to his son on account of his great affection and regard for the

son, this note, if not collected in an action on the note, becomes a valuable security, but if the son refuses to pay for value, the creditor may force collection.

4. Place

is usually written in the contract, and, in the case of a contract made in New York, and, if the contract is not written in full, it must be recognized as such. The party who does not accept the contract is liable.

5. A Guarantee

to answer for the acts of another person, this is a contract, and is commonly called a guarantee. It is a change from the contract made.

6. Object

man life, liberty, and property. True liberty is the right to do as one pleases to the extent that he does not encroach upon the rights of others.

7. Intention

doubt as to the intention of the court, if possible, the parties should determine the intention of the court.

1. A Contract

have a proper construction of the terms of the agreement. This contract, if made, the name of the contract, the description of the terms for carrying out the contract by both parties, the name also and the meaning of the contract.

2. Custom.

—If a contract is made, the payment be made in a short time for the contract. The chaser at his own expense, and the seller at his own expense, the agreement by delivery of the contract.

8. Abstract.

—If a contract is made, the seller must furnish the title deeds and the

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son, this note in the hands of the son could not be collected in any court of justice against the father, because the note, being an executory contract, was not based upon a valuable consideration, and therefore was invalid; but if the son were to sell it to an innocent third person, for value, such innocent purchaser for value, could enforce collection against the father.

4. Place for the Signature.—The party's signature is usually written at the close of the memorandum, but not necessarily so. It may be placed anywhere; at the end, in the middle, (except in a State where the statute requires the word subscribed instead of signed, as in New York), and, indeed, it may not necessarily be his name written in full, but his initial or any mark that he may recognize as his signature. A written offer, verbally accepted, is binding upon the signer, but not upon the party who does not sign.

5. A Guaranty.—Where there is a special promise to answer for the debt, default or miscarriage of another person, this too, must be in writing. This promise is commonly called a guaranty. In this there is no particular change from the common law, beyond the fact that the contract must be in writing.

6. Object of the Law.—The law vouchsafes to every man life, liberty, and the consequent pursuit of happiness. True liberty consists in a man's doing whatever he pleases to do, so long as he does not please to encroach upon the rights of other persons.

7. Intention of the Parties.—Where there is a doubt as to the principal meaning of the contract, the court, if possible, will follow the acts of the parties themselves in determining the meaning.

8. Presumption of the Law as to Damages.—When a contract has been fairly entered into, each party is legally bound to perform his part of the contract; or, to answer to the other for damages, according to the nature of the failure of the performance. Since the law presumes that every man intends to perform his obligation, it follows that if he does not do so, he must pay damages; for the language of the law is: "Perform your contracts or pay damages."

9. To Be Determined with Fairness.—The damages naturally, therefore, will be determined with all fairness to both parties; the law fully investigating the nature of the non-performance, whether it resulted from gross carelessness, or indifference, or whether it was a case of absolute necessity. The law, in no instance, however, will allow oppressive or vindictive damages.

10. Contracts for the Performance of Personal Service.—If an employer should dismiss or discharge his employee without a just cause or provocation, the employee so discharged has a right to recover damages for whatever loss he may sustain by such discharge and the consequent lack of employment.

11. Flooding Adjacent Lands.—Damages are also awarded to persons for injury to their real property as well as to their personal property. For instance, the backing up of water by raising embankments, levees or dams, or anything of that nature, and thus flooding adjacent lands and rendering the location unhealthy, besides producing malaria and other bad effects. In all such instances damages are awarded commensurate with injury brought to the property of the said plaintiff.

RULES FOR BUYING REAL ESTATE.

1. A Contract.—It is of the greatest importance to have a proper written contract clearly expressing all the terms of the agreement for purchase.

This contract should contain the date on which it is made, the names of the seller and purchaser, a short description of the property, price, time of payments and terms for carrying out the agreement. It should be signed by both parties before a witness, who should subscribe his name also and make an affidavit verifying the execution of the contract.

2. Custom.—It is customary to provide that a small payment be made on account of the purchase money, a short time for the investigation of the title by the purchaser at his own expense, that the seller shall give a deed free of expense, and the purchaser a mortgage, if any, at his own expense, and the time for completion of the agreement by delivering deed, signed by himself, if married by his wife also, and time for paying purchase money.

3. Abstract.—Unless it is agreed to the contrary, the seller must furnish an abstract of the title and produce all title deeds and necessary evidence of title at his own

expense, and the purchaser must investigate the title and tender a deed to the seller for execution. All taxes, rates, interest, insurance and rents are adjusted to the date of the sale and thereafter assumed by the purchaser.

4. Agreement.—All agreements for the sale of lands and of any interest in or concerning them, or by which an executor or administrator promises to answer damages out of his own estate, or by which a party undertakes to answer for the debt or default of another person, and an agreement that is not to be performed within one year from making same must be in writing and shall be signed by the party to be charged therewith or his agent thereunto by him lawfully authorized.

5. Deed.—A deed without consideration is void. Any person of full age, competent to transact business and owning real estate may convey it by deed. The deed takes effect upon its delivery and should be registered at once. Do not purchase real estate without a careful examination of the title by yourself or a solicitor and do not accept the deed and close the sale until a final search for mortgages and executions has been made.

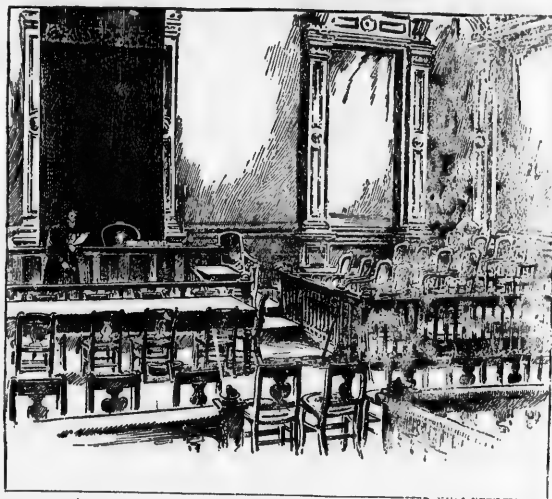
WHAT A DEED TO A FARM INCLUDES.

1. Fences, Etc.—Everyone knows that it conveys all the fences standing on the farm, but all might not think it also includes the fencing stuffs, posts, rails, etc., which had once been used in the fence, but had been taken down and piled up for future use again in the same place. But new fencing material just bought and never attached to the soil would not pass. So piles of hop poles stored away, if once used on the land, and intended to be again so used, have been considered a part of it; but loose boards or scaffold poles merely laid across the beams of the barn and never fastened to it, would not be, and the seller of a farm might take them away.

2. Standing Trees.—Standing trees, of course, also pass as part of the land; so do trees blown down or cut down, and still left in the woods where they fell, but not if cut and corded up for sale; the wood has then become personal property.

3. Manure.—If there be any manure in the barnyard, or in the compost heap on the field, ready for immediate use, the buyer ordinarily, and in the absence of any contrary agreement, takes that also as belonging to the farm, though it might not be so if the owner had previously sold it to some other party, and had collected it together, in a heap by itself, for such an act might be technical severance from the soil and so convert real into personal estate, and even a lessee of a farm could not take away the manure made on the place while he was in occupation.

4. Growing Crops.—Growing crops also pass by the deed of a farm, unless they are expressly reserved; and when it is not intended to convey these, it should be so



stated in the deed itself; a mere oral agreement to that effect would not be in most States valid in law. Another mode is to stipulate that possession is not to be given until some future day, in which case the crops or manure may be removed before that time.

5. Buildings on the Farm.—Buildings on the farm, though generally mentioned in the deed, it is not absolutely necessary they should be. A deed of land ordinarily carries all the buildings on it belonging to the grantor, whether mentioned or not; and this rule includes the lumber or timber of any old building which has been taken down or blown down, and packed away for future use on the farm.



1. How to Measure a Mow.—Measure the width in feet, and the result by the new hay), and

2. How to Measure a Stack.—Measure over the stack in feet, and then the two results multiply this by the length by 400 (or, if you have the number of the stack, simply multiply the largest pile by the two right figures in the stack).

3. How to Measure a Mow.—Multiply the width by the three right figures in the area comes to.

4. How to Measure a Mow.—Multiply the length by the width again by the width (or, for good, so the right hand figures of shelled corn find the average of the bottom widths,

5. How to Measure Grain in a Bin.—Measure by the height in feet, and then a figure. The result

FARMERS' SHORT RULES OF ARITHMETIC.



1. How to Find the Number of Tons of Hay in a Mow.—Multiply the length of the mow in feet, by the width in feet, and that by the height in feet, and divide the result by 400 if the hay is well settled (or, by 500 for new hay), and you have the number of tons in the mow.

2. How to Find the Number of Tons of Hay in a Stack.—Let the hay settle 30 days. Then measure over the stack with a tape line from ground to ground in feet, and then find the width of the stack in feet and add the two results together, and divide the sum by 4, then multiply this result by itself, and multiply that number by the length of the stack in feet, and divide the product by 400 (or, for greater accuracy, by 420), and you will have the number of tons in the stack. If it is a round stack, simply multiply the distance around the stack in the largest place by one-third of the height, and point off the two right hand figures, and you have the number of tons in the stack.

3. How to Find the Cost of a Load of Hay.—Multiply the weight by one-half the price per ton, point off the three right hand figures, and the figures at the left will be the amount in dollars and cents that the load comes to.

4. How to Measure Ear Corn in a Orib.—Multiply the length in feet by the height in feet, and that again by the width in feet, and multiply the result by 4, (or, for good, sound corn well settled, by 5), and cut off the right hand figure, and you have the contents in bushels of shelled corn. When the crib is flared at the side, find the average width by adding together the top and bottom widths, and dividing by 2.

5. How to Find the Number of Bushels of Grain in a Box or Bin.—Multiply the length in feet by the height in feet, and that again by the breadth in feet, and then again by 8, and cut off the right hand figure. The result will be the number of bushels.

6. How to Find the Number of Heaped Bushels of Ear Corn, Apples or Potatoes in a Crib or Bin.—Multiply the length in feet by the breadth in feet, and that again by the height in feet, and multiply the result by 6, cut off the right hand figure, and you have the number of heaped bushels.

7. How to Find the Contents of a Wagon Box.—Multiply the depth of the wagon box in inches by 2, and you have the number of bushels. A common wagon box is a little more than ten feet long and three feet wide, and will hold about two bushels for every inch in depth. If the wagon box is 11 feet long, multiply the depth in inches by 2, and add one-tenth of the number of bushels to itself.



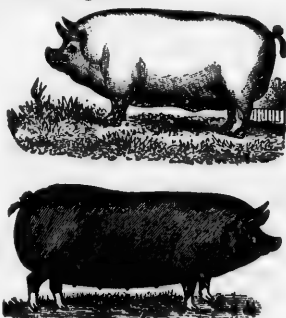
8. How to Find the Weight of Cattle by Measurement.—Multiply the distance around the animal (back of the fore-shoulder) in feet by itself, and then multiply that result by 17.5 and you have the weight of the animal very near. For more accurate results instead of multiplying by 17.5 multiply by five times the length of the animal in feet (measuring from the fore-part of the shoulder blade to the bone at the tail, in a vertical line with the buttocks), and divide this product by 1.5 for average cattle, (very fat by 1.425; very lean by 1.575) and you have the dressed weight of the animal.

9. How to Find the Price per Hundred, When Sold by the Ton.—Multiply the price in dollars per ton by 5, and the result will be the price in cents per hundred.

10. How to Find the Contents of Tanks and Cisterns.—If the cistern or tank is square, multiply the height, width and depth in feet together, and divide the product by 4, and the result will equal the number of barrels the cistern will hold. If the cistern or tank is

round, multiply the diameter in feet by itself, and multiply that by the depth in feet, and divide the product by 5, and you will have the number of barrels the cistern or tank will hold.

*** 11. How to Find the Contents of Barrels and Casks.**—Add together the diameters at the bung and head in inches, and divide the sum by 2, and the result will be the average diameter. Now multiply this result by itself, and multiply the product by the length of the barrel or cask, in inches. Multiply this result again by 34, and cut off the four right hand figures, and you will have the number of gallons.



12. Gross and Net Weight of Hogs.—It is assumed that the gross weight of hogs, diminished $\frac{1}{4}$ or 25 per cent. of itself, gives the net weight, and the net weight increased by $\frac{1}{4}$ or 25 per cent. of itself equals the gross weight. Thus: If the gross weight of a load of hogs is 1800 pounds, the net weight would be $\frac{3}{4}$ or 360 less, or 1440 pounds. If the net weight is 1440 pounds, the gross weight will be $\frac{1}{4}$ or 360 pounds more, or 1800 pounds.

13. How to Find the Number of Common Brick in a Wall.—Multiply the length of the wall in feet by the height in feet, and that by its thickness in feet, and then multiply that result by 16, and the product will be the number of bricks in the wall.

14. How to Find the Number of Yards of Carpet to Cover a Floor.—Multiply the length of the room in feet by the width in feet and divide the result by 9, and you have the number of yards of carpet required, if the carpet is one yard wide. If the carpet is only $\frac{3}{4}$ of a yard wide proceed as above, and then multiply by 4 and divide by 3.

15. An Easy Way to Multiply by 11.—To multiply any two figures by 11, add the two figures together

and place their sum between the two figures of that number. If the sum of the two figures exceeds 9, the left hand figure must be increased by 1.

16. How to Find the Number of Acres in a Field.—If the field is rectangular, multiply the length in rods by the breadth, and divide by 160. If the piece is triangular, multiply the length in rods by the breadth and divide by 2. Then divide by 160, and the result will be the number of acres in the field.

1. Example: How many acres in a piece of land 80 rods long and 20 rods wide? $80 \times 20 = 1600$, $1600 \div 160 = 10$ acres.

2. Example: How many acres in a triangular field 80 rods long and 40 rods wide? $80 \times 40 \div 2 = 1600$ sq. rods. $1600 \div 160 = 10$ acres.

17. How to Measure Wood.—Multiply the length, breadth and height in feet together, and divide by 128. The result will be the number of cords.

Example: How many cords in a pile of wood 20 feet long, 4 feet wide, and 8 feet high? $20 \times 4 \times 8 = 640$. $640 \div 128 = 5$ cords.

18. How to Measure Boards.—Find the width of the boards in inches, and add together, and the sum obtained will be equal to the number of feet in the pile if the boards are 12 feet long. If the boards are 14 feet long add $\frac{1}{2}$ of itself, if 16 feet long add $\frac{1}{3}$ of itself, and you will have the number of feet in the pile.

Example: How many feet of lumber in 12 boards, 10 inches wide, and 14 feet long? $12 \times 10 = 120$; $\frac{1}{2}$ of 120 = 60; $120 + 60 = 180$, the number of feet.

19. How to Measure Scantlings, Joists, Planks, Etc.—Multiply the width in inches by the thickness in inches, and multiply the result by the length in feet and divide by 12, and you will have the number of square feet.

Example: How many feet of lumber in a scantling 4 inches wide, 2 inches thick, and 18 feet long? $4 \times 2 \times 18 = 144$. $144 \div 12 = 12$ feet of lumber.

20. How to Find the Number of Shingles Required for a Roof.—Multiply the length of the roof by twice the length of one rafter, and multiply the result by 8 if the shingles are to be exposed $4\frac{1}{2}$, or by 7 if the shingles are to be exposed 5 inches to the weather, and you will have the number of shingles required.

Example: How many shingles will it take to cover a roof 30 feet long, and the rafters 12 feet long; shingles to be exposed $4\frac{1}{2}$ to the weather? $30 \times 12 \times 2 = 720$. $720 \times 8 = 5760$ shingles required for the roof.

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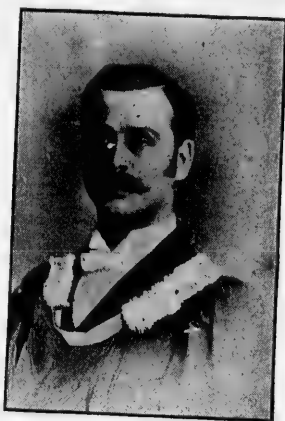
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THE LAW OF INTEREST AND USURY.



J. E. HANSFORD, LL.B.,
Of Osgoode Hall, Barrister-at-Law.

1. Legal Interest.—The rate prescribed by law is the legal rate, and any rate in excess of that is termed usury. The rate of interest, if not regulated by law, would depend mainly upon two circumstances. These are, first, the demand for money compared with the supply accessible; and second, the risk that a lender would run of not receiving it back as agreed. With plenty of money and little demand for it, and also very little risk of losing to be incurred, the rate would be low.

2. No Law Against Usury.—There is no law against usury in Canada. Any rate of interest may be collected if especially agreed for, and if no special rate is agreed for the legal rate of 6% may be charged.

3. If Nothing is Stated.—If nothing is stated, a debt is supposed to be payable where it was contracted; and the rate of interest is controlled by the laws of that place.

4. Book Accounts.—In ordinary book accounts, interest is not allowed unless specially agreed, or when a term of credit is named. In this latter case interest may be charged after the term expires. When an account has been adjusted, the balance bears interest from date of liquidation.

5. Rent Past Due.—Interest is allowed by law on rent past due from the time it was due.

6. Legal Claims.—All good, legal claims bear interest from the time they become due; hence all insurance policies, past due, draw interest from their due date.

7. Collecting Money for Another.—One who collects money for another, which he should have accounted for at once, can be made to pay interest from date of collection.

8. Fraud.—When one obtains money from another by fraud, and is compelled to return it, he is liable, also, for interest on it from the time he obtained it.

9. Partial Payments.—In computing interest on debts, when partial payments have been made, the payments are first applied to reduce the interest; but if the payment does not equal the interest due, interest is calculated on the debt until such time as the sum of the payments equals or exceeds the interest. The interest is then added to the principal, the sum of the payments deducted, and the balance forms a new principal.

10. The General Rule.—The general rule of law is that, when money which is certainly due one person is withheld from him by another, the latter is bound to pay interest for such detention.

RAPID SIX PER CENT. METHOD.

HOW TO FIND THE INTEREST AT SIX PER CENT. FOR MONTHS.

Multiply the principal by one-half the number of months, and point off two figures from the right.
Example: What is the interest on \$150, for 6 months?
Solution: $\$150 \times 3$ (half the number of months) = \$4.50.

HOW TO FIND THE INTEREST FOR MONTHS AND DAYS AT SIX PER CENT.

Multiply the principal by the number of days; divide the product by 6, and point off three figures from the right.
Example: What is the interest on \$250 for 4 months and 18 days?
Solution: 4 months equal 120 days. $120 + 18 = 138$. $138 \times 250 = 34,500$. $34,500 \div 6 = \$5.75$.

TO FIND THE INTEREST AT ANY OTHER RATE THAN SIX PER CENT.

First find the interest at 6 per cent.; then multiply the interest by the required rate and divide by 6, and the result will be the interest required. Thus, in the above example the interest is \$5.75 at 6 per cent. To find the interest at 7 per cent. the operation will be as follows: $\$5.75 \times 7 = 40.25$. $40.25 \div 6 = \$6.70 +$



The Celebrated Lightning Methods for Calculating Interest.

WHERE THE TIME IS FOR DAYS ONLY.

RULE:—To find the interest on any given sum for any number of days, multiply the principal by the number of days, and divide as follows:

At 5 per cent., divide by 72.	At 9 per cent., divide by 40.
At 6 per cent., divide by 60.	At 10 per cent., divide by 36.
At 7 per cent., divide by 52.	At 12 per cent., divide by 30.
At 8 per cent., divide by 45.	

EXAMPLE:—What is the interest on \$1000.00 for 6 days at 6 per cent.?

SOLUTION:— $1000 \times 6 \div 60 = \1.00 .

WHEN THE TIME CONSISTS OF YEARS, MONTHS AND DAYS.

1. **RULE.**—Reduce years to months, adding the number of months, then place one-third of the number of days to the right of the months, with a decimal point between.
2. Then remove the decimal point two places to the left in the principal, and divide by 2, and the result will equal the interest for one month at 6 per cent.
3. Multiply the interest for one month by the number of months, and the product is the interest at 6 per cent. for the given time.

Then add $\frac{1}{2}$ of itself for 7 per cent.	
" " $\frac{1}{4}$ of itself for 8 per cent.	Subtract $\frac{1}{2}$ of itself for 5 per cent.
" " $\frac{1}{2}$ of itself for 9 per cent.	" " $\frac{1}{4}$ of itself for 4 per cent.
" " $\frac{3}{4}$ of itself for 10 per cent.	

EXAMPLE:—Find the interest on \$300, at 8 per cent., for 1 year, 3 months and 15 days.

SOLUTION:— $\$3.00 \div 2 = \1.50 interest for 1 month. 1 year, 3 months and 15 days = 15.5 months.

$\$1.50 \times 15.5 = \23.25 interest at 6 per cent. $23.25 + 7.75 = \$31.00$, interest at 8 per cent.

N. B.—The \$7.75 is one-third of \$23.25.

HOW TO USE THE INTEREST TABLES.

1. The interest on any sum of money, and for any length of time may be obtained, by adding to or doubling any certain sum, or length of time in the tables, viz: If the interest on a certain sum of money at 8 per cent. for a given time should be \$20.00, one-half of \$20.00 or \$10.00 would equal the interest at 4 per cent., etc.
2. If the interest at 6 per cent. should amount to \$4.33, on a certain sum of money for a given time, twice that amount or \$8.66 would equal the interest at 12 per cent., etc.
3. The tables are computed on the principle of 360 days in a year, the rule adopted by bankers and merchants throughout the entire country.
4. When the fraction of interest is a half a cent or more, a whole cent is taken, but when less than a half cent, nothing is charged.

EXAMPLE:—To find the interest on \$195.00 for one year, five months, and 23 days, at 6 per cent. according to table, proceed as follows:

Interest on \$100, for 1 year at 6 per cent.,	\$6.00
" " 90, " 1 " 6 " "	5.40
" " 5, " 1 " 6 " "	.30
" " 100, " 5 mths. " 6 " "	2.50
" " 90, " 5 " 6 " "	2.25
" " 5, " 5 " 6 " "	.13

Interest on \$100, for 23 days at 6 per cent.,	.38
" " 90, " 23 " 6 " "	.35
" " 5, " 23 " 6 " "	.02

Interest on the amount **\$17.33**

1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
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21	21
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29	29
1 Mon	1 Mon
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
1 Year	1 Year

INTEREST AT TEN PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$1000
1 Day	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.02	.02	.02	.03	.03	.28
2 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.02	.03	.03	.04	.04	.05	.56
3 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.03	.04	.05	.06	.07	.83
4 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	1.11
5 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	1.39
6 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	1.67
7 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	1.94
8 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	2.22
9 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	2.50
10 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	2.78
11 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	3.06
12 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	3.33
13 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	3.61
14 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	3.89
15 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	4.17
16 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	4.44
17 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	4.72
18 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	5.00
19 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	5.28
20 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	5.56
21 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	5.83
22 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	6.11
23 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	6.39
24 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	6.67
25 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	6.94
26 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	7.22
27 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	7.50
28 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	7.78
29 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	8.06
1 Month	.01	.02	.03	.03	.04	.05	.06	.07	.08	.08	.16	.23	.31	.39	.47	.55	.62	.70	.78	8.33
2 Days	.02	.03	.05	.07	.08	.10	.12	.13	.15	.17	.25	.33	.42	.50	.58	.67	.75	.83	8.83	16.67
3 Days	.03	.05	.08	.10	.13	.15	.18	.20	.23	.25	.33	.42	.50	.58	.67	.75	.83	8.83	16.67	25.00
4 Days	.04	.07	.10	.13	.17	.20	.23	.27	.30	.33	.42	.50	.58	.67	.75	.83	8.83	16.67	33.33	41.67
5 Days	.05	.10	.15	.20	.25	.30	.35	.40	.45	.50	.58	.67	.75	.83	8.83	16.67	33.33	41.67	50.00	58.33
6 Days	.06	.12	.18	.23	.29	.35	.41	.47	.53	.59	.67	.75	.83	8.83	16.67	33.33	41.67	50.00	58.33	66.67
7 Days	.07	.13	.20	.27	.33	.40	.47	.53	.60	.67	.75	.83	8.83	16.67	33.33	41.67	50.00	58.33	66.67	75.00
8 Days	.08	.15	.23	.30	.38	.45	.53	.60	.68	.75	.83	8.83	16.67	33.33	41.67	50.00	58.33	66.67	75.00	83.33
9 Days	.08	.17	.25	.33	.42	.50	.58	.67	.75	.83	8.83	16.67	33.33	41.67	50.00	58.33	66.67	75.00	83.33	91.67
10 Days	.09	.18	.28	.37	.46	.55	.64	.73	.83	.92	1.00	1.08	1.17	1.25	1.33	1.42	1.50	1.58	1.67	100.00
11 Days	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00	1.08	1.17	1.25	1.33	1.42	1.50	1.58	1.67	1.75	
1 Year	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	

INTEREST AT NINE PER CENT.

	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$1000
1 Day	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	\$.01	\$.01	\$.01	\$.01	\$.02	\$.02	\$.02	\$.02	\$.02	\$.25
2 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.02	.02	.03	.04	.05	.05	.05	.05	.50
3 Days	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	.07	.75
4 Days	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01	.03	.04	.05	.06	.08	.09	.10	.10	1.00
5 Days	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.02	.03	.05	.06	.08	.09	.10	.11	.12	1.25
6 Days	.00	.00	.01	.01	.01	.01	.01	.01	.02	.02	.04	.06	.07	.09	.11	.12	.14	.16	.15	1.50
7 Days	.00	.00	.01	.01	.01	.02	.02	.02	.02	.02	.04	.06	.08	.10	.12	.14	.16	.18	.17	1.75
8 Days	.00	.00	.01	.01	.02	.02	.02	.02	.02	.02	.05	.07	.09	.11	.14	.16	.18	.20	.20	2.00
9 Days	.00	.00	.01	.01	.02	.02	.02	.02	.02	.02	.05	.08	.10	.13	.15	.18	.20	.23	.23	2.25
10 Days	.00	.01	.01	.01	.02	.02	.02	.02	.03	.03	.06	.08	.11	.14	.17	.19	.22	.25	.25	2.50
11 Days	.00	.01	.01	.01	.02	.02	.02	.03	.03	.03	.06	.09	.12	.15	.18	.21	.24	.27	.27	2.75
12 Days	.00	.01	.01	.01	.02	.02	.02	.03	.03	.03	.07	.10	.13	.16	.20	.23	.26	.29	.30	3.00
13 Days	.00	.01	.01	.02	.02	.02	.03	.03	.03	.03	.07	.11	.14	.18	.21	.25	.28	.32	.32	3.25
14 Days	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.08	.12	.15	.19	.23	.26	.30	.34	.38	3.50
15 Days	.00	.01	.01	.02	.02	.03	.03	.03	.04	.04	.09	.13	.17	.20	.24	.28	.32	.36	.40	4.00
16 Days	.00	.01	.01	.02	.03	.03	.04	.04	.05	.05	.10	.14	.18	.21	.26	.30	.34	.38	.42	4.25
17 Days	.00	.01	.01	.02	.03	.03	.04	.04	.05	.05	.10	.14	.19	.23	.27	.32	.36	.41	.45	4.50
18 Days	.00	.01	.01	.02	.03	.03	.04	.05	.05	.05	.10	.15	.20	.24	.29	.33	.38	.43	.47	4.75
19 Days	.00	.01	.01	.02	.03	.04	.04	.05	.05	.05	.11	.16	.21	.26	.30	.35	.40	.45	.50	5.00
20 Days	.00	.01	.02	.02	.03	.03	.04	.05	.05	.05	.11	.17	.22	.28	.32	.37	.42	.47	.53	5.25
21 Days	.00	.01	.02	.02	.03	.03	.04	.05	.05	.06	.12	.17	.23	.29	.33	.39	.44	.50	.55	5.50
22 Days	.00	.01	.02	.02	.03	.04	.04	.05	.05	.06	.12	.18	.24	.30	.35	.40	.46	.52	.57	5.75
23 Days	.00	.01	.02	.03	.03	.04	.05	.05	.06	.06	.13	.19	.25	.31	.38	.44	.50	.56	.60	6.00
24 Days	.00	.01	.02	.03	.04	.04	.05	.05	.06	.07	.14	.20	.26	.33	.39	.46	.52	.58	.62	6.25
25 Days	.00	.01	.02	.03	.03	.04	.05	.05	.06	.07	.14	.20	.27	.34	.41	.47	.54	.59	.65	6.50
26 Days	.00	.01	.02	.03	.04	.04	.05	.05	.06	.07	.15	.22	.28	.35	.42	.49	.56	.63	.68	6.75
27 Days	.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.15	.22	.29	.36	.44	.51	.58	.65	.70	7.00
28 Days	.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.15	.22	.29	.36	.44	.51	.58	.65	.72	7.25
29 Days	.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.15	.22	.29	.36	.44	.51	.58	.65	.72	7.25
1 Month	.01	.02	.03	.04	.05	.06	.07	.08	.09	.10	.15	.20	.25	.30	.38	.45	.53	.60	.68	7.50
2 Days	.02	.03	.05	.06	.08	.10	.11	.12	.14	.15	.30	.45	.60	.75	.90	1.05	1.20	1.35	1.50	15.00
3 Days	.02	.05	.07	.09	.11	.14	.16	.18	.20	.23	.45	.68	.90	1.13	1.35	1.58	1.80	2.03	2.25	22.50
4 Days	.03	.06	.10	.12	.15	.18	.21	.24	.27	.30	.60	.90	1.20	1.50	1.80	2.10	2.40	2.70	3.00	30.00
5 Days	.04	.08	.11	.15	.18	.21	.24	.27	.30	.34	.75	1.13	1.50	1.88	2.25	2.63	3.00	3.38	3.75	37.50
6 Days	.05	.11	.16	.21	.26	.32	.37	.42	.47	.50	1.00	1.35	1.80	2.25	2.70	3.15	3.60	4.05	4.50	45.00
7 Days	.06	.12	.18	.24	.30	.36	.42	.48	.54	.60	1.20	1.60	2.00	2.40	2.85	3.30	3.75	4.20	4.75	47.50
8 Days	.06	.14	.20	.27	.33	.41	.47	.54	.60	.68	1.35	1.80	2.30	2.70	3.15	3.60	4.05	4.50	5.00	50.00
9 Days	.08	.15	.23	.31	.38	.45	.53	.60	.68	.75	1.50	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50	75.00
10 Days	.08	.15	.23	.31	.38	.45	.53	.60	.68	.75	1.50	2.25	3.00	3.75	4.50	5.25	6.00	6.75	7.50	75.00
11 Days	.08	.17	.24	.32	.41	.50	.57	.66	.74	.83	1.65	2.48	3.30	4.13	4.95	5.78	6.60	7.43	8.25	82.50
1 Year	.09	.18	.27	.36	.45	.54	.63	.72	.81	.90	1.80	2.70	3.60	4.50	5.40	6.30	7.20	8.10	9.00	90.00

81

INTEREST AT EIGHT PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$1000
1 Day	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.02	.02	.02	.02	.22
2 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.02	.02	.03	.03	.04	.04	.44
3 "	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01	.02	.03	.04	.05	.05	.06	.67
4 "	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	.09	.89
5 "	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.02	.03	.04	.06	.07	.08	.09	.11	1.11
6 "	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.02	.03	.04	.05	.07	.09	.11	.12	.13	1.33
7 "	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.02	.03	.05	.05	.08	.09	.11	.12	.16	1.58
8 "	.00	.00	.01	.01	.01	.01	.01	.01	.02	.02	.04	.05	.07	.09	.11	.12	.14	.16	.18	1.78
9 "	.00	.00	.01	.01	.01	.01	.01	.02	.02	.02	.04	.06	.08	.10	.12	.14	.16	.18	.20	2.00
10 "	.00	.00	.01	.01	.01	.01	.02	.02	.02	.02	.04	.07	.09	.11	.13	.16	.18	.20	.22	2.22
11 "	.00	.01	.01	.01	.01	.02	.02	.02	.02	.03	.05	.08	.11	.13	.16	.19	.21	.24	.27	2.44
12 "	.00	.01	.01	.01	.02	.02	.02	.02	.03	.03	.06	.09	.12	.14	.17	.20	.23	.26	.30	2.67
13 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.03	.07	.10	.13	.17	.20	.23	.27	.30	.33	2.89
14 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.04	.07	.11	.14	.18	.21	.25	.28	.32	.36	3.11
15 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.03	.08	.11	.15	.19	.23	.26	.30	.34	.38	3.33
16 "	.00	.01	.01	.02	.02	.02	.02	.03	.03	.04	.08	.12	.16	.20	.24	.28	.32	.36	.40	3.56
17 "	.00	.01	.01	.02	.02	.02	.03	.03	.03	.04	.08	.13	.17	.21	.25	.30	.34	.38	.42	3.78
18 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.09	.13	.18	.22	.27	.31	.36	.40	.44	4.00
19 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.09	.14	.19	.23	.28	.33	.37	.42	.47	4.22
20 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.09	.15	.20	.24	.29	.34	.39	.44	.49	4.44
21 "	.00	.01	.01	.02	.02	.02	.03	.04	.04	.05	.10	.15	.20	.26	.31	.36	.41	.46	.51	4.67
22 "	.00	.01	.01	.02	.02	.03	.03	.04	.05	.05	.11	.16	.21	.27	.32	.37	.43	.48	.53	4.89
23 "	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05	.11	.17	.22	.28	.33	.39	.44	.50	.56	5.11
24 "	.01	.01	.02	.02	.03	.03	.04	.05	.05	.06	.12	.17	.23	.29	.35	.40	.46	.52	.58	5.33
25 "	.01	.01	.02	.02	.03	.03	.04	.05	.05	.06	.12	.18	.24	.30	.36	.42	.48	.54	.60	5.56
26 "	.01	.01	.02	.02	.03	.03	.04	.05	.05	.06	.12	.19	.25	.31	.37	.44	.50	.56	.62	5.78
27 "	.01	.01	.02	.02	.03	.04	.05	.05	.06	.06	.13	.19	.26	.32	.39	.45	.52	.58	.64	6.00
28 "	.01	.01	.02	.02	.03	.04	.05	.05	.06	.06	.13	.20	.27	.33	.40	.47	.53	.60	.66	6.22
29 "	.01	.01	.02	.03	.03	.04	.05	.05	.06	.06	.13	.20	.27	.33	.40	.47	.53	.60	.66	6.44
1 Month	.01	.01	.02	.03	.03	.04	.05	.05	.06	.06	.13	.20	.27	.33	.40	.47	.53	.60	.66	6.67
2 "	.01	.03	.04	.05	.07	.08	.09	.11	.12	.13	.27	.40	.53	.67	.80	.93	1.07	1.20	1.33	13.33
3 "	.02	.04	.06	.08	.10	.12	.14	.16	.18	.20	.40	.60	.80	1.00	1.20	1.40	1.60	1.80	2.00	20.00
4 "	.03	.05	.08	.11	.13	.16	.19	.21	.24	.27	.53	.80	1.07	1.33	1.60	1.87	2.13	2.40	2.67	26.67
5 "	.03	.05	.08	.10	.13	.17	.20	.23	.27	.30	.53	1.00	1.33	1.67	2.00	2.33	2.67	3.00	3.33	33.33
6 "	.03	.08	.12	.16	.20	.24	.28	.32	.36	.40	.80	1.20	1.60	2.00	2.40	2.80	3.20	3.60	4.00	40.00
7 "	.03	.09	.14	.19	.23	.28	.33	.37	.42	.47	.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	46.67
8 "	.05	.11	.16	.21	.27	.32	.37	.43	.48	.53	1.07	1.60	2.13	2.67	3.20	3.73	4.27	4.80	5.33	53.33
9 "	.06	.12	.18	.24	.30	.36	.42	.48	.54	.60	1.20	1.80	2.40	3.00	3.60	4.20	4.80	5.40	6.00	60.00
10 "	.07	.13	.20	.27	.33	.40	.47	.53	.60	.67	1.33	2.00	2.67	3.33	4.00	4.67	5.33	6.00	6.67	66.67
11 "	.07	.15	.22	.29	.37	.44	.51	.59	.66	.73	1.47	2.20	2.93	3.67	4.40	5.13	5.87	6.60	7.33	73.33
1 Year	.08	.16	.24	.32	.40	.48	.56	.64	.72	.80	1.60	2.40	3.20	4.00	4.80	5.60	6.40	7.20	8.00	80.00

INTEREST AT SEVEN PER CENT.

	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$1000
1 Day	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.02	.02	.02	.19
2 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.02	.03	.04	.04	.05	.06	.39
3 "	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.01	.02	.02	.03	.04	.05	.05	.06	.07	.58
4 "	.00	.00	.00	.00	.00	.01	.01	.01	.01	.01	.01	.02	.03	.04	.05	.06	.07	.08	.09	.78
5 "	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01	.02	.04	.05	.06	.07	.08	.09	.11	1.17
6 "	.00	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01	.02	.04	.05	.06	.08	.09	.11	.12	1.36
7 "	.00	.00	.01	.01	.01	.01	.01	.01	.01	.01	.02	.04	.05	.07	.08	.10	.11	.12	.14	1.56
8 "	.00	.00	.01	.01	.01	.01	.01	.01	.02	.02	.04	.05	.07	.09	.11	.12	.14	.16	.18	1.75
9 "	.00	.00	.01	.01	.01	.01	.01	.02	.02	.02	.04	.06	.08	.10	.12	.14	.16	.18	.19	1.94
10 "	.00	.00	.01	.01	.01	.01	.02	.02	.02	.02	.04	.06	.09	.11	.13	.15	.17	.19	.21	2.14
11 "	.00	.00	.01	.01	.01	.01	.02	.02	.02	.02	.05	.07	.09	.12	.14	.16	.19	.21	.23	2.33
12 "	.00	.01	.01	.01	.01	.02	.02	.02	.02	.03	.05	.08	.10	.13	.15	.18	.20	.23	.25	2.53
13 "	.00	.01	.01	.01	.01	.02	.02	.02	.02	.03	.05	.08	.11	.14	.16	.19	.22	.25	.27	2.72
14 "	.00	.01	.01	.01	.01	.02	.02	.02	.02	.03	.06	.09	.12	.15	.18	.20	.23	.26	.29	2.92
15 "	.00	.01	.01	.01	.02	.02	.02	.02	.03	.03	.06	.09	.12	.16	.19	.22	.25	.28	.31	3.11
16 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.03	.07	.10	.13	.17	.20	.23	.26	.30	.33	3.31
17 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.04	.07	.11	.14	.18	.21	.25	.28	.32	.35	3.50
18 "	.00	.01	.01	.01	.02	.02	.02	.03	.03	.04	.08	.11	.15	.18	.22	.26	.30	.33	.37	3.69
19 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.08	.12	.16	.19	.23	.27	.31	.35	.39	3.89
20 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.08	.12	.16	.20	.25	.29	.33	.37	.41	4.08
21 "	.00	.01	.01	.02	.02	.02	.03	.03	.04	.04	.09	.13	.17	.21	.26	.30	.34	.39	.43	4.28
22 "	.00	.01	.01	.02	.02	.03	.03	.04	.04	.05	.09	.13	.18	.22	.27	.31	.36	.40	.45	4.47
23 "	.00	.01	.01	.02	.02	.03	.03	.04	.04	.05	.10	.14	.19	.23	.28	.33	.37	.42	.47	4.66
24 "	.00	.01	.01	.02	.02	.03	.03	.04	.04	.05	.10	.15	.19	.24	.29	.34	.39	.44	.49	4.86
25 "	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05	.10	.15	.20	.25	.30	.35	.40	.46	.51	5.05
26 "	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05	.11	.16	.21	.26	.32	.37	.42	.47	.53	5.25
27 "	.01	.01	.02	.02	.03	.03	.04	.04	.05	.05	.11	.16	.22	.27	.33	.38	.44	.49	.54	5.44
28 "	.01	.01	.02	.02	.03	.04	.05	.05	.05	.05	.11	.17	.23	.28	.34	.39	.45	.51	.56	5.64
29 "	.01	.01	.02	.02	.03	.04	.05	.05	.05	.06	.12	.18	.23	.29	.35	.41	.47	.53	.58	5.83
1 Month	.01	.02	.04	.05	.06	.07	.08	.09	.11	.12	.23	.35	.47	.58	.70	.82	.93	1.05	1.17	11.67
2 "	.02	.04	.05	.07	.09	.11	.12	.14	.16	.18	.35	.53	.70	.88	1.05	1.23	1.40	1.58	1.75	17.50
3 "	.02	.05	.07	.09	.12	.15	.18	.21	.23	.26	.47	.70	.93	1.17	1.40	1.63	1.87	2.10	2.33	23.33
4 "	.03	.06	.09	.12	.15	.18	.20	.23	.26	.29	.58	.88	1.17	1.46	1.75	2.04	2.33	2.63	2.92	29.17
5 "	.04	.07	.11	.14	.18	.21	.25	.28	.32	.35	.7	1.05	1.40	1.75	2.10	2.45	2.86	3.15	3.50	35.00
6 "	.04	.08	.12	.16	.20	.25	.29	.33	.37	.41	.82	1.23	1.63	2.04	2.45	2.86	3.27	3.68	4.08	40.83
7 "	.05	.09	.14	.19	.23	.28	.33	.37	.42	.47	.93	1.40	1.87	2.33	2.80	3.27	3.73	4.20	4.67	46.67
8 "	.05	.11	.16	.21	.26	.32	.37	.42	.47	.53	1.05	1.58	2.10	2.63	3.15	3.68	4.20	4.73	5.25	52.50
9 "	.06	.12	.18	.23	.29	.35	.41	.47	.53	.58	1.17	1.75	2.33	2.92	3.50	4.08	4.67	5.25	5.83	58.33
10 "	.06	.13	.19	.26	.32	.39	.45	.51	.58	.64	1.28	1.93	2.57	3.25	3.85	4.49	5.13	5.78	6.42	64.17
11 "	.07	.14	.21	.28	.35	.42	.49	.56	.63	.70	1.40	2.10	2.80	3.50	4.20	4.90	5.60	6.30	7.00	70.00

143

\$100	\$1000	INTEREST AT SIX PER CENT.																				INTEREST TABLES.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
		TIME.	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000

\$100	\$100		\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$20	\$30	\$40	\$50	\$60	\$70	\$80	\$90	\$100	\$1000
\$.02	\$.10	1 Day	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.04	.39	2 Days	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.06	.58	3 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.08	.78	4 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.10	.97	5 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.12	1.17	6 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.14	1.36	7 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.16	1.56	8 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.18	1.75	9 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.19	1.94	10 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.21	2.14	11 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.23	2.33	12 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.25	2.53	13 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.27	2.72	14 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.29	2.92	15 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.31	3.11	16 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.33	3.31	17 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.35	3.50	18 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.37	3.69	19 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.39	3.89	20 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.41	4.08	21 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.43	4.28	22 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.45	4.47	23 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.47	4.67	24 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.49	4.86	25 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.51	5.06	26 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.53	5.25	27 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.54	5.44	28 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.56	5.64	29 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
.58	5.83	30 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1.17	11.67	1 Month	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
1.75	17.50	2 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2.33	23.33	3 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2.92	29.17	4 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3.50	35.00	5 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4.08	40.83	6 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4.67	46.67	7 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5.25	52.50	8 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5.83	58.33	9 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6.42	64.17	10 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7.00	70.00	11 "	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
		1 Year	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

INTEREST AT FIVE PER CENT.



CATERPILLAR AND MOTH.

A COMPLETE INSECT DEPARTMENT.

INSECTS INJURIOUS TO VEGETATION
AND
NEW AND SCIENTIFIC METHODS
FOR THEIR EXTERMINATION.

... INSECTS AS HOUSE-PESTS. ...

New Receipts and New Remedies.

1. Increase of
that insects are
upon vegetation
every year. New
experiments are co
our trees, fruit and
becoming more an
2. Exterminat
realize the vast di
twenty years ago a
are slaughtered ann
of fashion. While
grouse, pheasants a
friends of the farme
to satisfy the passio
fruit or grain could

SAVE THE BIRDS AND BANISH THE HUNTERS!

THE EXTERMINATION OF BIRDS MEANS THE INCREASE OF INSECTS.



3. **The Farmers' Friends.**—The farmer rarely ever gets any direct benefit from the game which flourish on his premises. The majority of our grain producers scarcely ever realize what protection is furnished by the birds during the spring and early summer. At that season of the year the fowls of the field and the birds of the air feed almost entirely upon worms and other insects, and one insect destroyed the first of the season may be equal to millions destroyed in the fall.

4. **A Dollar a Head.**—It is no doubt a well established fact that every quail, every partridge, every prairie chicken, every grouse, every pheasant, and the like, are worth a dollar a piece to every farmer. The insects which they destroy in the early season is worth three or four times more to the producer than the highest market price ever paid for these birds as game.

EVERY QUAIL AND EVERY PRAIRIE CHICKEN IS WORTH \$1.00 A PIECE TO EVERY FARMER.

1. **Increase of Insects.**—It is a fact well established that insects are annually increasing and their ravages upon vegetation are more wide-spread and disastrous every year. New precautions, new remedies, and new experiments are continually necessary in order to protect our trees, fruit and vegetation. The outlook for fruit is becoming more and more alarming.

2. **Extermination of Birds.**—All the old settlers realize the vast difference between the number of birds twenty years ago and now. Millions of our song birds are slaughtered annually to satisfy the whims and follies of fashion. While quails, prairie chickens, partridges, grouse, pheasants and various other birds, that are the friends of the farmers, are almost exterminated in order to satisfy the passion for sport. Were it not for birds no fruit or grain could be raised.

5. **Save the Birds.**—If farmers would unite and would protect the birds upon their farms, and keep off the hunters, it would be worth thousands of dollars to the country. It is difficult to estimate the value. Let farmers unite and keep out hunters, sports and dogs from their fields, and thereby protect their crops.

6. **Wholesale Cruelty and Slaughter of Small Birds.**—Some one has said, if women could only know of the destruction of bird life that their love of finery occasions, they would make it unfashionable to wear the feathers of murdered birds. In 1886, 5,000,000 birds were required to fill the demand for ornamenting ladies' hats. Forty thousand terns were killed in a single season on Cape Cod; 1,000,000 reed birds (bobolinks) in a single month near Philadelphia. The swamps and marshes of Florida are well known to have become depopulated of egrets and herons, and the State at large



THE DEAD BIRD.

has become a favorite slaughter ground for milliners' emissaries. Seventy thousand birds were killed in a small village on Long Island in a short space of four months. A lady in Florida heard the mournful notes of some birds in small cages. They were blind. Their eyes had been put out. The cages were hung in trees smeared with tar. The birds sing and attract other birds, who get stuck in the tar. They are caught and their eyes put out.

7. Follies of Women. — The little tufts of feathers which have been so much worn are taken from the beautiful egrets or small herons, who have them only during the breeding season. The bird is shot while trying to protect its young ones, and is easily caught on that account, and the young birds are left to starve. Many of the most useful and beautiful species of the birds are becoming extinct.

8. A Plea for Birds, Grain, Fruit and Humanity. — An extract from a letter from Michigan gives some idea of the complaint made by farmers:

"The destruction of birds has been carried on to such an extent that it is hardly possible to raise any kind of fruit, even the grapes as well as the apples getting too wormy to use."

9. \$100,000,000. — It is estimated that they save \$100,000,000 annually to the farmer. Michelet, the great French authority, says: "There could be no vegetation, and therefore no life, if the birds were all destroyed."

10. Let Every Man Frown upon Women wearing feathers of birds, and they will soon give up the fashion. In fact, we ought to look upon a lady with a feather of bird upon her hat as lacking in sensibility and refinement.

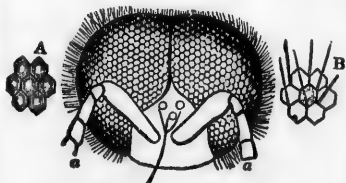
The insect
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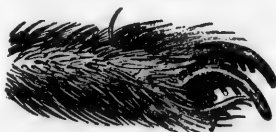
Insects Injurious to Vegetation and Remedies for their Extermination.

PECULIARITIES OF INSECT LIFE.

The insect world is more wonderful and beautiful than the animal world. The illustrations below show the forms and proportion of insects as they appear under a powerful microscope. Insects are a charming study, and he who has the opportunity to secure a good microscope and make the examination, will find great interest and many surprising results. Those who desire to become efficient and effective in the destruction of injurious insects must study the subject carefully and make many investigations. Secure a few works on insects, and great pleasure will be found perusing this subject.



HEAD AND EYES OF A BEE.



FOOT OF A SPIDER.



LEGS OF A CATERPILLAR.



THE GOAT MOTH.

The Goat Moth is a well-known insect, with a short body and large and broad wings of a pale brownish white color, marked with short wavy lines. The caterpillar of this insect is flesh or wine colored, and has a few hairs upon it; and a faint and disagreeable smell is evolved from it, which is left behind upon the wood over which it has recently crawled. This larva gnaws the old trunks of willows and elms, and by excavating large galleries in the trees, it often destroys some of the largest and finest.

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The Digestive Organs of an Insect.

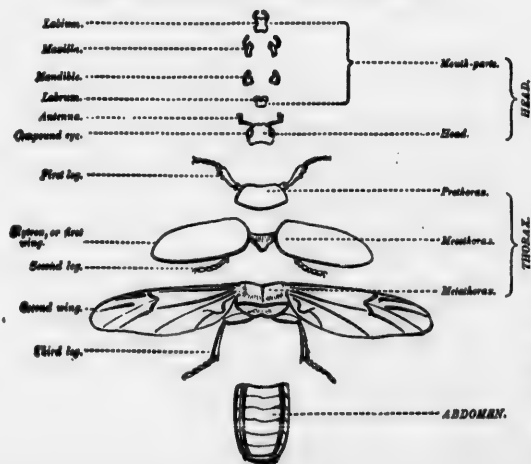
a, head, jaws, etc.; b, oesophagus; c, crop; d, gizzard; e, chylic stomach; f, biliary vessels; g, intestine; h, secreting organs.

DIGESTIVE ORGANS OF INSECTS.

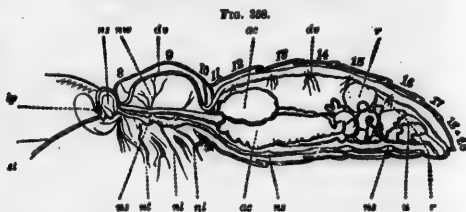


The digestive system of insects is quite complicated. It consists of a mouth variously modified in the different groups, a pharynx, a gullet, a first stomach or crop, a second stomach or gizzard, a small intestine, etc. In some kinds the mouth parts are modified for biting and chewing purposes; in others they are so modified as to be adapted for sucking organs.

Names of All the Parts of an Insect.

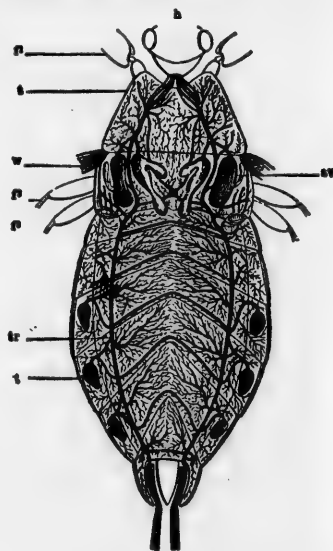


SKELETON OF AN INSECT.



st, spiral tongue; lp, mouth; ac, stomach and intestine; ns, main portion of nervous system; nw, nervous threads going to the wings; dv, heart; r, reproductive organs.

The Breathing Apparatus of a Bug.



HOW INSECTS BREATHE.

The breathing apparatus of insects generally consists of a system of air tubes, which branch in every direction throughout the body. These tubes receive the air through little air holes called stigmata, and are arranged along the sides of the lower portions of the body. Some insects, however, breathe by a sort of rude lungs or cavities located in the inner portion of the body.

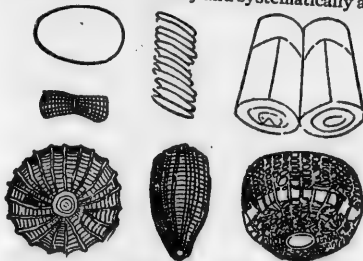
4. **Laying Eggs.** The White Ants are oviparous, that is, they lay their eggs in a hole. When the eggs are deposited in the hole, they are deposited in the rotting of trees, in rotten wood.

THE INSECT WORLD.



c, First Stomach,
d, Second Stomach.
e, Third Stomach.

3. **Wings.**—The wings are generally made very much like that of a Bat—they consist of a sort of a membrane extended over a slender frame-work. The wings of a moth, however, are covered with sort of a dust; when put under the microscope they are found to be made up of regularly formed scales truthfully and systematically analyzed.



Magnified Eggs of various Insects.

4. **Laying Eggs.**—With very few exceptions insects are oviparous, that means that they lay eggs. Some lay their eggs in Autumn and hatch them in the Spring; they are deposited in the earth, sometimes under the bark of trees, in rotten wood, or on or under leaves, etc.

5. **Insects** are commonly exceedingly prolific. The female White Ant produces fifty million eggs in a single year. The queen of the Honey Bee is supposed to lay over that number of eggs annually, and the Plant Louse is supposed to lay a trillion.

1. **The Digestive Apparatus** is commonly quite complicated, their being three stomachs—one to correspond to the crop of birds, another to the gizzard, and the third receives the food after it has been softened and ground in the other two stomachs. Thus c, d and e represents the three stomachs in the above illustration.

2. **Forms of Feet.**—The feet of insects are in conformity with their modes of life. Some have claws or hooks; some have a kind of a suction cushion by which they can adhere to the surfaces; some have fringed feet to enable them to swim; and some have their fore feet shaped for digging, like the mole's, or rats.



IMAGO, OR THE PERFECT INSECT.

6. **Metamorphosis.**—Almost every insect undergoes a certain change, which is called metamorphosis. In the first state the insect is a caterpillar, or a worm. In the second state it is wrapped up in a covering which is called a cocoon, or lies buried in the earth, and for some time remains in a sort of a sleep. When this is completed, it becomes a perfect winged insect, and generally ready for flight.



LARVA, OR MASKED STATE.



PUPA, OR BABY STATE.

7. **Three Stages.**—An insect goes through three distinct stages. The first is called the Larva, which is the Latin word for mask; the insect is not in its true state or character, consequently it is called the Larva, or masked state. The second state is the sleeping state, when it is wrapped in a cocoon, or is going through its transformation in some other form, it is called the Pupa, the Latin word for baby, because it commonly appears something like a baby, helplessly sleeping in its bed, until the developed or waking time arrives. The next state is called the Imago, or perfect state, because it is now in the image of perfection, or complete development. Thus Larva represents the worm or caterpillar, Pupa the cocoon or sleeping period, and Imago the winged or perfect state.

8. **Reproduction.**—The Larva is produced from an egg, and the egg is laid by a perfect insect. When the Larva is first hatched it is very small, but it grows very rapidly and eats ravenously. The common fly is first a maggot, and then develops into a common fly.

9. **Pupa State.**—An insect undergoes many changes in developing from a worm into a butterfly. Insects in the Pupa state eat no food.

10. **In the Image State** the insect eats but little, as it has reached its growth and requires but little nourishment.

SCIENTIFIC NAMES OF INSECTS SIMPLIFIED.

Fruit growers, or at least a great many of them, have taken up the study of insect life more from necessity than choice, and it has always seemed to us that one reason for this aversion to Entomology has been the many scientific names which are necessarily used, and also from the fact that entomology has only of recent years become an art—of every-day practical appliance—as well as a science. Science in itself means a systematic classification, and the science of insects is in this respect no more difficult than the science of flowers or any form of life. As with flowers so with insects. Commencing as far back as the division of *Arthropoda* (from the Greek, meaning *jointed legs*), we find that this division includes INSECTS, ARACHNIDA (from a Greek word, meaning *spider*), PYCNOGONIDA (from the Greek, meaning *thick or crowded knees or legs*) and CRUSTACEA (from the Latin, meaning *rind or shell*). We are only interested now, however, in the first named of the preceding, viz: INSECTS. These, we find, are divided into MYRIAPODA

worms, Millipedes, etc. The most of our pets are found among the TRUE INSECTS or HEXAPODS, and are characterized by having the body distinctly divided into three parts, viz: the Head, the Thorax or Chest, in which the Heart and Lungs are situated, and the Abdomen or Stomach. These true insects also have, as a rule, three pairs of legs and two pairs of wings. Going still further in the classification, we find that the Hexapodus are divided into eight different orders.



BOT FLY.



BEE FLY.



HORSE FLY.

First come the *Hymenoptera* or Order I. These (named from Greek words, meaning *membrane-winged*), have a mouth organ developed for biting, and also as a sucking tube. Their wings are small, transparent, and with few nerves or veins. Familiar examples of this Order are Bees, Ants and Sawflies. The next three Orders have mouths developed simply as sucking tubes, the difference in the Orders depending upon their wings.

Order II. are the *Lepidoptera* (from the Greek, meaning *scaly wings or feathers*) and their distinguishing feature



THE HAIR SPIDER.

(from the Greek, meaning *numberless legs*) and the HEXAPODA (from the Greek, meaning *six-legged*). The MYRIAPODS are the less common of the two classes, and include as their names imply, such animals as Centipedes, Galley-



is that the wings are covered with minute scales, such as butterflies and moths.

Order III. are the *Diptera* (from the Greek, meaning *two wings*) or with only one pair, and these are transparent and with few veins; the Housefly and Mosquito are examples of this Order.

Order V. are the *Hemiptera* (from the Greek, meaning *half-winged*). Those belonging to this Order have trans-

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parent wings more or less veined, or the upper ones are developed half way as a leathery shield; examples of this Order are bugs, lice, locusts, etc. The preceding



HORSE FLY.

Order I. These membrane-winged, and also as a transparent, and examples of this. The next three sucking tubes, upon their wings.

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parent wings more or less veined, or the upper ones are developed half way as a leathery shield; examples of this Order are bugs, lice, locusts, etc. The preceding



SEVENTEEN YEAR LOCUSTS.

three as noted have their mouths developed as sucking tubes; the next four, on the contrary, have their mouths developed for biting, and in order to preserve this classification we have placed Order IV. out of its regular position.



Order IV. is *Coleoptera* (from the Greek, meaning sheathed-winged). In these the upper wing is a horny convex shield, the under wings being membranous and folding upon a hinge, such as beetles.

Order VI. is *Orthoptera* (from the Greek, meaning straight winged). In these the upper wings are straight, being leathery or membranous, and the under wings fold like a fan, such as Crickets and Grasshoppers.

Order VII. is the *Neuroptera* (from the Greek, meaning nerved or veined winged). These have thickly veined transparent wings, and Dragonflies are an example.

Order VIII. and the last, is the *Thysanura* (from the Greek, meaning fringed tail). These have no wings, but the stomach is furnished with more or less rigid bristles. These are very small animals, as the Bristletails and Springtails.

The above eight orders are, therefore, the main divisions of Entomology, and it may be well for those interested in bug life either from a liking of the subject or

through force of circumstances, to master these hard names, trying to remember them, if possible, by themselves, or better from an understanding of what they mean.

Perhaps later we

may have something to say about the families comprised in these various orders, though it would be impossible for us to go further than the families without writing a regular book on the subject. For, remember, in each family is a long list of Genera (plural of Genus) with an unlimited number of Species under each Genus. In giving the scientific name of the insect, and a great many have no other, the first word is the Genus, and the second the Species. There are, as a rule, many species in each genus, a number of Genera in each family, a number of families in each order, a number of orders in each class, and so on up to



THE SCORPION.

The *Archnida* is an order of insects which have the body divided into two well marked regions—the head and hind body. They have simple eyes and four pairs of legs, they have no antennae nor wings, and they do not change their forms after they are hatched from the egg. From the egg to maturity they change their skin six times.

The bite or sting of some spiders are very poisonous, especially the Tarantula, which often causes death. The Scorpion is very dangerous, and requires immediate medical attention.

the last division, ending in the Animal Kingdom, each order, class or division containing less divisions than the preceding.—Orange Judd Farmer.





FEEDING THE SUFFERERS OF THE GRASSHOPPER RAID.

THE PRINCIPAL INSECTICIDES, AND HOW TO USE THEM.

1. **Care.**—The most important substances for spraying are poisons, and great care should be exercised in the use of any prepared combinations of Arsenic, Paris Green, and London Purple.

2. **The Most Common Kinds.**—The most common insecticides are Paris Green, London Purple, Slug-shot, White Arsenic, Hellebore, Pyrethrum, Kerosene Emulsion, Carbolic Acid, Tobacco, Bisulphide of Carbon, Benzine and Gasoline, and Coal Tar.

3. **Paris Green Spray.**—For Fruit and Shade Trees use one pound of poison to 250 gallons of water, and keep well stirred; smaller quantities in proportion. The chief objection to Paris Green is, that it is so heavy that it settles quickly to the bottom of the vessel—very much more quickly than London Purple. It is also more expensive.

4. **London Purple.**—London Purple is a little more injurious to the foliage than Paris Green, but keeps in solution better, as it does not settle to the bottom so quickly. It should never be applied to foliage easily injured, like peach and plum trees. For general spraying use three ounces in sixty gallons of water. Smaller quantities in proportion.

5. **White Arsenic.**—White Arsenic should be handled with great care, as it is liable to burn the foliage.

6. **Hellebore.**—Use a tablespoonful to a pail of water and sprinkle the foliage with it. It will generally kill the worms found on currants, gooseberries, and the like.

7. **Kerosene Emulsion.**—Kerosene Emulsion is prepared by adding two parts of kerosene to one part of a solution made by dissolving half a pound of hard soap in one gallon of boiling water, and churning the mixture through a force pump with a rather small nozzle until the whole forms a creamy mass, which will thicken into a jelly-like substance on cooling. The soap solution should be hot when the kerosene is added, but of course must not be near the fire. The emulsion thus made is to be diluted, before using, with nine parts of cold water. This substance destroys a large number of insects, such as the Chinch Bug, Cabbage Worm, and White Grub; and is a comparatively cheap and effective insecticide.

8. **Benzine and Gasoline.**—These may be set under the bushes or foliage where insects are destructive, and the gas rising will either destroy or drive away the insects.

9. **Coal Tar.**—This is used along the side of ditches, to keep chinch bugs from migrating into other fields.

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A MOTH.

A NEWLY DISCOVERED INSECTICIDE.

Thought to be More Desirable than Paris Green.

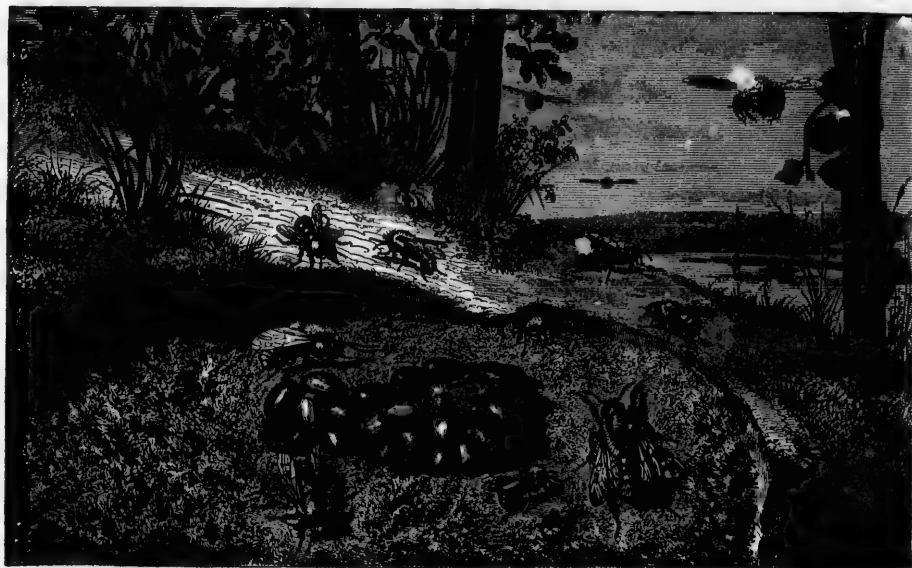
A new and important discovery in the domain of pomology has been made by F. C. Moulton, of the gypsy moth commission, Malden, Mass. Arsenate of lead was the substance used, which was prepared by dissolving eleven ounces of acetate of lead and four ounces of arsenate of soda in 150 gallons of water. These substances quickly dissolve and form arsenate of lead, a fine white powder, which is lighter than Paris green, and while being fully as effective in its operation in destroying insect life, is far preferable for several reasons: If by any means the mixture happens to be used stronger than necessary to destroy insect life, even three or four times the necessary strength, it in no wise injures the foliage of the plants upon which it is sprayed. This is greatly in its favor, for often in using Paris green for Potato beetle larvæ and for the codlin worms, as much injury results from the poison burning the foliage as would result from the insect if let alone.

This is a better insecticide than Paris green under all circumstances and for all insects, says Prof. Fernald. It has the advantage of being readily seen on the leaves, so that one can tell at a glance which have and which have not been sprayed, which is often of great convenience. Being lighter than Paris green, it does not settle so quickly, and as a result can be distributed more evenly over the foliage. A great objection to the use of Paris green

is the liability of using an over-dose, and thereby injuring the foliage of the plants sprayed. With the arsenate of lead, it can be used, if necessary, in the proportion of 25 lbs. to 150 gallons of water, without injury to the foliage. Prof. Fernald advises the addition of two quarts of glucose, or if that cannot be obtained, two quarts of molasses to each 150 gallons of water, used for the purpose of causing the insecticide to adhere to the leaves. Experiments have shown that the insecticide will remain on the trees for a long time, even after heavy rains, and we infer, prove effective. The cost of these chemicals is given as 8¢ per lb. for arsenate of soda and 14¢ per lb. for acetate of lead, at wholesale. It should be borne in mind that these substances are all poisonous, and should be handled with proper care.



ANTS BRINGING HOME THEIR CAPTIVES.



HOW TO SPRAY FRUIT TREES AND SHRUBS; —OR— HOW TO RAISE PERFECT AND WELL DEVELOPED FRUIT EVERY YEAR.



1. Farmers and gardeners must come to it. Every year's experience shows conclusively that our fruit is not only becoming more imperfect, but is decreasing in quality and quantity.

2. Farmers must meet the new conditions, be prepared for new duties, or they will soon lose their beautiful fields and fruit gardens.

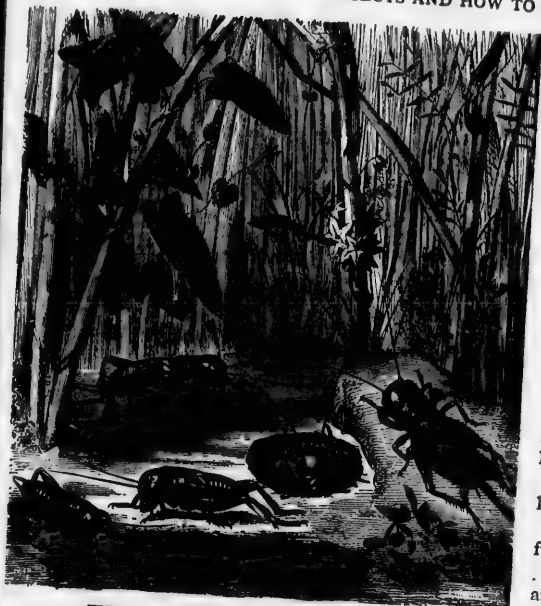
3. Spraying is no longer an experiment, but a science, and but few men who keep a fruit orchard, potato field, grape vineyard or cotton field, hop field or tobacco field, must resort to spraying at the proper time.

4. To show the benefit of spraying select a portion of your trees or shrubbery, and carry out the instructions and receipts given, and you will demonstrate to your own satisfaction in a single season the wonderful benefit of spraying and protecting your fruits.

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THE FIELD CRICKET.

The crickets are nocturnal insects, whose colors are dark and of brown and gray tints. They have all long and slender organs of sensation, and legs adapted for jumping. The males have a large musical apparatus, and the females possess an elongated ovipositor.

These insects live very solitary existences, except when they are disposed for that society which they suppose they can obtain by their everlasting chirp. Each of them digs a hole, and does not leave it except during the night, and children in the fields, who know this, can often catch a field cricket by poking straws down cracks in the ground.



HOW TO DESTROY CLOTHES MOTHS.

One of the greatest enemies of the housewife is the clothes moth. It is very small and makes its way through the smallest crevices. The female moth finds its way in early Summer among the clothes and furs, suitable for food for its young, and there deposits about fifty or more eggs. In about a week the eggs hatch and the young worms begin to eat upon the cloth upon which the eggs were laid. It spins a sort of case which it lengthens and enlarges. Not content with eating and

making a house for itself upon the cloth upon which it lives, it cuts its way in various directions through the cloth and drags its case after it. As the weather gets warmer the little worm closes its case at the ends and in three weeks the perfect moth will make its appearance.

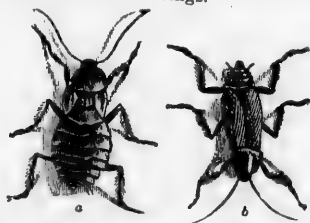
REMEDY. Beat the garments well early in the Spring and occasionally during the Summer. It is better to keep the articles in a large paper bag. Occasional airing is good.

For clothes packed in boxes or trunks, put a little oil of cedar on a piece of paper and roll up and wrap with other paper to avoid soiling the garments, and put several of these rolls into each box or trunk. Carbolic acid, turpentine or benzine is equally good, used in the same manner.

Black pepper, a piece of camphor gum, or a handful of snuff wrapped up with the clothes is excellent.

Caution. Camphor should never be used in keeping seal skin, as it takes the color out of the fur. A close closet lined with tar paper is the best for furs. It is also excellent for clothes.

Whole cloves are now used to exterminate moths, and some say they are much better than tobacco, camphor, or cedar shavings.



HOW TO DESTROY COCKROACHES (Blattidæ).

HISTORY. The cockroach does not, like most insects, pass through several distinct changes. It sheds its skin several times and develops into a full-grown insect. The female carries her eggs with her in a little sack. When the eggs are ready to hatch the case is dropped. The young are white after being hatched and change for a dark brown color. They shed off five or six times before maturity.

Cockroaches are very troublesome, eating everything that comes in their way. They have a strong and disagreeable odor.

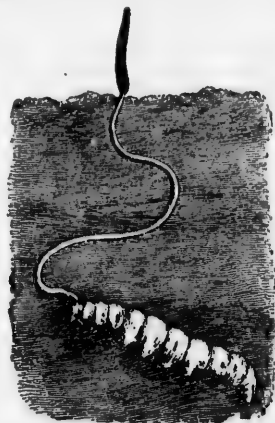
Another species of the cockroach known as the "Water bug" is very common in New England. Its habits and manner of development are about the same as the regular cockroach.

REMEDY. Thirty-seven parts of borax, nine parts of starch and four parts of cocoa sprinkled around the haunts will usually exterminate them in a few days.

Other receipts, such as a tablespoonful of red lead and Indian meal mixed with enough molasses to make a thick batter used for a few evenings, will also produce fatal results.

Insect powder does not kill them, but stupefies them so they can be swept up and destroyed.

Pouring hot water on them where it can be done, is a sure remedy.



A VEGETABLE CATERPILLAR.

Attention has been called to the Aweto of New Zealand as one of these puzzling products of nature. In the early stage of its growth it is a perfect caterpillar, growing to the length of three and a half inches. It is always found in the neighborhood of the Ratatree, a large scarlet-flowered myrtle, and habitually buries itself a few inches under ground.

When the Aweto is fully grown, it undergoes a wonderful change. The spore of a vegetable fungus fixes itself directly on the caterpillar's neck, takes root, and grows like a diminutive bulrush, from six to ten inches high, without leaves, and with a dark-brown head.

The singular stem penetrates the earth over the caterpillar and stands up a few inches above the ground. The root grows at the same time into the body of the insect, exactly filling every part without altering its form in the slightest degree. It simply substitutes a vegetable for an animal substance.

As soon as this process is completed, both the caterpillar and fungus die, and become dry and hard, and the thing is then a wooden caterpillar.



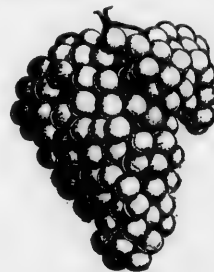
ALL KINDS OF RECEIPTS FOR SPRAYING PLANTS, TREES AND SHRUBBERY.

Insects Which Sting the Fruit and Devour the Foliage.

Use Paris Green or London Purple in proportion of one pound to 250 gallons of water, and apply just after the bloom has dropped, then once or twice thereafter, ten days apart.

For Insects like Plant Lice.

Make a kerosene emulsion of one-fourth pound of soap one pint of kerosene, two quarts of hot water. One quart of this mixed with twelve quarts of water and spray as soon as the first broods appear.



GRAPES.

The grape vine flea beetle, and the grape phylloxera can be destroyed by spraying with the kerosene emulsion. The former can also be destroyed with London Purple or Paris Green.

For Mildew or Black Rot use a solution of potassium sulphide—one ounce to five gallons of water. Spray after leaves begin to start; again just before blooming; then once in two weeks until fruit is of good size.

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INSECTS AND HOW TO DESTROY THEM.

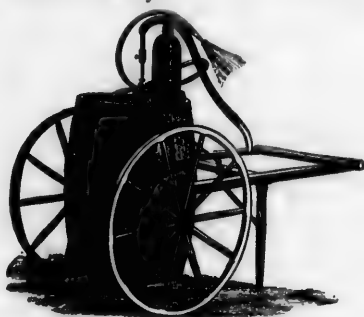
157

For Fungus Attacks, Such as Mildews, Rots, Scabs, Etc.

Receipt: Dissolve six pounds of sulphate of copper in sixteen gallons of water, four pounds of lime in six gallons of water. Apply to grapes early in the season, other fruit after bloom.

Second Receipt: Three ounces carbonate of copper in one quart of ammonia, and diluted in twenty-five gallons of water. The two above receipts are effective for grape rot, apple and pear scab, and leaves no coloring upon the fruit. Apply before any foliage appears and then after the foliage is out, and fruit formed, three to six times according to the season.

The Vermorel Nozzles are best, they throw a fine spray and use less material, and for high trees only a little longer hose is necessary.



Spray Pump.
CABBAGE.

To destroy the cabbage maggot, spray the roots with two ounces white hellebore in three gallons of water. Kerosene emulsion is also recommended; in either case the earth should be pushed away by hand and the liquid forced about the roots. To destroy the cabbage worm, spray with hot water at 130 degrees Fahrenheit, or with kerosene emulsion. The green cabbage worm can be destroyed by spraying with pyrethrum, two tablespoons to two gallons of water.

PLUMS.

Destroy the aphid with kerosene emulsion and a fine spray nozzle. The curculio can be destroyed by spraying with three ounces Paris green to forty gallons of water. First application should be made as soon as blossoms have fallen, and repeat at intervals of a week or ten days. Four applications should be sufficient. Other Caemias of the plum will be destroyed by this method, but in all cases be particular to keep the poison and water constantly stirred.

**STRAWBERRIES.**

Leaf blight can be prevented by the use of the Bordeaux mixture, applied with a spray pump once in two weeks; first application must be made early in the season.

Destroy the crown borer by spraying with Paris green, three ounces to forty gallons of water, as soon as the new leaves open, again just before the first blossoms unfold, and again after August 1st.

PEARS.

The pear slug can easily be destroyed by spraying with Paris green, four ounces to fifty gallons of water, or kerosene emulsion as soon as it begins operations. The pear leaf mite can be destroyed by spraying with kerosene emulsion. The codling moth and curculio should be treated the same as recommended for apple trees.

Hop Plant Louse.

This insect appears in June or early in July, and is very destructive. Spray as soon as the pests appear with kerosene emulsion. This is guaranteed to kill the lice in thirty minutes after application.



For roses use hellebore. A tablespoonful in a pail of water.

Small fruits and bushes can be sprinkled with a bucket sprinkler.



THE SEVENTEEN-YEAR LOCUST.

The Locusts deposit their eggs in the earth, and close them up in a kind of tunnel, and the young ones are born without wings, which become developed as they grow older.

TOMATOES.

The green tomato worm can be destroyed by spraying with London purple, one-fourth pound to sixty gallons of water. This should not be used after the tomatoes have begun to ripen.

PEACHES.

Peaches if attacked by the black peach aphid, spray with kerosene emulsion. The plum curculio frequently

attacks the peach, in which case spray with Paris green, two ounces to fifty gallons of water; be sure to keep it well stirred, and use with caution. Never use London purple on peach trees.

CHINCH BUG ON CORN.

Can be destroyed with the kerosene emulsion. Every farmer should learn to make this emulsion, as it is a most useful insecticide. It is especially valuable for killing lice on cattle and hogs. Paris green will not kill chinch bugs. Apply the emulsion with a spray pump.



CURRENTS AND GOOSEBERRIES.

To destroy the worms spray with powdered white hellebore, one ounce in three gallons of water, as soon as the worms appear. To destroy the yellow aphid, spray with kerosene emulsion early in the season. To prevent mildew use one-half ounce potassium sulphide to one gallon of water.



The spray pump can be used for washing buggies with good advantage. After washing the buggy, wipe dry with a chamouis skin or soft rag and then apply a little kerosene oil and lampblack with a small sponge.

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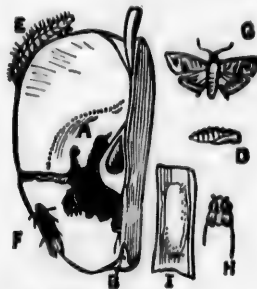
MEAT OR FLESH FLY.

The Flesh Fly and the Blue Bottle are very useful, or as they are called, Gentles, for they devour dead bodies of all kinds. The curious legless maggots are well known, and so are the egg-shaped, dark-brown pupæ. The maggots, which at first are called "fly blows," increase in size with very great rapidity if they have sufficient food; and there is some truth in the saying that a pair of maggots will eat up a carcass as soon as a lion, for the reproductive powers of the female are enormous.

COTTON.

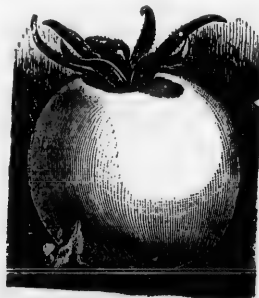
The Arkansas Industrial University at Fayetteville says, the following is one of the most efficient, inexpensive and harmless remedies for the destruction of the cotton worm: Two and one half pounds pyrethrum, and one and one-half gallons of kerosene oil, and one pound soap. Dissolve the latter in one gallon of boiling water, and to this hot mixture add one gallon of the above extract (pyrethrum and kerosene), and mix thoroughly with a force pump; dilute with water 450 parts to one part of

the emulsion, and apply to the cotton with a "Vermorel" nozzle; this extract kills by contact, and though destructive to insect life, is not in the least injurious to those handling it.



HOW TO PROTECT APPLE AND CHERRY TREES.

For the prevention of leaf blight spray as soon as the leaves are full grown with Bordeaux mixture or Ammonical carbonate of copper. To destroy the codling moth, canker worm and curculio, spray with Paris green or London purple, one-fourth pound in forty or fifty gallons of water, soon after the blossoms fall, and again two weeks later. To destroy the aphid or plant lice, spray with kerosene emulsion as soon as the pests appear. To destroy the web worm spray with London purple or kerosene emulsion about August 1st or 10th, or as soon as they appear. This application should be made during the middle of the day, when the worms are out of their webs and feeding on the leaves.





LOCUST OR GRASSHOPPER.

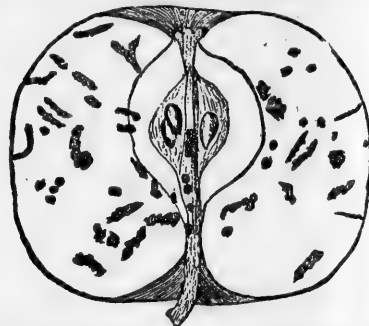
The locusts or grasshoppers deposit their eggs in the earth, and close them up in a kind of tunnel, and the young ones are born without wings, which become developed as they grow older.

THE APPLE MAGGOT.

1. Apples are usually injured by a codling moth, who works about the core, but the apple maggot feeds all through the apple, as shown in the following illustration. It ruins, when it once enters, the entire apple, as no part of it can be saved.

2. The Apple Maggot is a two-winged fly, seen early in Summer, and deposits its eggs under the skin of the young apples early in the season. In the course of a few days they

develop into maggots, and permeate the fruit in all directions. In six weeks they develop into full size of a whitish or greenish-white color. They



then make their appearance on the surface, drop to the ground, and penetrate the soil to the depth of about an inch, where they will remain until the following Summer, when they come out as full-fledged flies.

3. Remedies.—As yet there are no remedies that will produce the desired result. The only system of extermination is to collect all the wind-falls and destroy all the apple pomace, so there will be no sources for their development. Only a few States are suffering from this insect, and great caution should be exercised against its spreading by vigilantly using the above precautions.

COMMON INSECT PESTS.

Good, Tried Remedies—Patent Insecticides More Dangerous Than Home-Made.

Bulletin No. 24 of the Colorado Experiment Station is devoted to "A few Common Insect Pests," by Prof. Gillette, and includes a discussion of the



"Imported Cabbage Worm," the "Southern Cabbage Butterfly," the "Cabbage Plusia," the "Cabbage Plutella," "Flee Beetles," and "Onion Thrips." Several species of parasites on the cab-

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INSECTS AND HOW TO DESTROY THEM.

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bage worm are mentioned, but it is stated that remedies should be resorted to without expecting these natural enemies alone to keep the insects in check. The methods of treatment deserve repetition, and it may be remembered that these, given for the imported Cabbage Worm, are also the most efficient for the Southern Cabbage Worm, the Cabbage Plusia and the Cabbage Plutella: "As the eggs are deposited on the outer surface of the leaves, and the worms feed for some time before reaching the head, these insects may be nearly all destroyed by the prompt application of any one of several good remedies. Among



the cheapest, most easily applied, and to my mind the best of the remedies to destroy cabbage worms, are the arsenites—London Purple or Paris Green. I have given abundant proof of the harmlessness of such applications to those who eat the cabbages, in Bulletin 12 of the Iowa Experiment Station.

Some of the Remedies.

"Thoroughly mix one ounce of the poison in six pounds of flour, and dust it very lightly over the plants from a cheese-cloth sack, in the evening or early morning, when a little dew is still upon the leaves. Make the first application soon after the plants are set out. Certainly no one can think that there would be the slightest danger in giving such treatment up to the time that the heads begin to form. After the heads have formed, the poison can be applied mostly to the outer leaves; but if any is put upon the head itself, it is almost impossible that it should do harm, as the surface leaves of the head are not eaten, and these leaves in a growing cabbage are continually spreading and becoming outer leaves. Neither can the poison be washed by rain into the cabbage, for the outer leaves do not run into the head. I should not think it advisable to apply the poisons nearer than 7 to 10 days to the time of harvesting the cabbages, and it would never be necessary to do so.

Patent insecticides, such as Slug Shot and Oxide of Silicates, have been much used by gardeners for the destruction of cabbage worms. The poison in these insecticides is Paris Green, but no one ever heard of a person being poisoned from eating cabbages thus treated. These patent insecticides are much more dangerous to use than one a person prepares himself, for he is usually ignorant as to the composition of patent compounds, and is more liable to be careless with them. For those who prefer not to use the arsenites, there is probably no better remedy than Insect Powder, or Buhach. This substance kills by coming in external contact with the worms, and is best applied by means of a blower that sends the parti-

cles of dust down between the leaves of the plants. This powder is not poisonous to man, and hence is very safe to use or to have in the house. The chief objection to this substance is its expense. The powder is very light, and a pound will treat a large number of plants. A remedy much recommended by Dr. Riley is hot water. Water may be poured boiling hot into a watering-pot and applied at once to the caterpillar, and, if the plants are not too thoroughly drenched, the latter will not be harmed, while all the worms touched by the water will be destroyed. Worms that are protected upon the under side of the leaves cannot, of course, be treated. Kerosene emulsion, if applied in extra strength and with considerable force, will also kill many of the worms, but I have not found this substance of much value in destroying the larvæ of *Pieris rapæ*."

APPLE TREE BORERS.

Signs.—The indication of apple tree borers are that they make their appearance, especially in young trees, by a sort of a sawdust being pushed out of the openings in the bark. The discoloration of the bark of the apple tree also shows where the grubs are at work.



APPLE TREE BORERS.

Remedies.—Apply on the first of June a solution of soft soap and crude carbolic acid, and two weeks later make another application.

The Mixture.—One and one-half quart of soft soap or one and one-half pound of hard soap mixed with two gallons of boiling water and one pint of crude carbolic acid. Mix thoroughly.

It is a good plan, late in the Fall, to go over the young orchard and examine the trees, and see if there are any indications of borers or eggs; they can be easily destroyed with the knife.



The Bark Louse represents a sort of whitish or yellowish scales, and in the fall they increase in size, and by the end of the season the tree has a sort of a scaly

covering. They are apparently fast to the tree, and are parasites feeding on the sap, and not a part of the bark, as many suppose.

Remedy.—Scrape off the tree with a dull knife or hoe as much as possible. Young trees should be scraped very carefully, then scrub with a broom and apply the soap emulsion, used for apple tree borers, double strength. In June spray the trees with kerosene emulsion.



THE POPLAR BUG.

Poplar trees are frequently much damaged by this insect. The grown bug is of a green bronze color; the larva is red and is spotted with brilliant black. The larva destroys the foliage and does great injury. Remedy: Spray with kerosene emulsion.

A New Way to Protect Cucumbers, Melons, and Squash Vines.

The worst enemy of these vines is the little striped yellow bug. It first appears as a little tiny worm, and in almost two weeks casts off its skin and acquires its perfect form.

Remedy.—The best way to raise vines which these insects feed upon, is to get eight inch tile, cut them in two in the middle, or have it done at the tile factory, and set into the earth several inches, plant the seeds inside the tile, and keep it covered with a window glass until the vines are beyond the reach of the bugs. The glass draws the heat and makes the growth thrifty and rapid.

The Ohio Experiment Station recommends the following: Take the refuse of a cigar factory, dry it and powder

it, and apply a shovelful of the powder to each hill; after each rain renew the application. The results are excellent. Tobacco acts both as a mulch and a fertilizer, and is an excellent thing for cucumbers and melons, aside from its beneficial effects in keeping off the cucumber beetle.

Another Method.

Place over each hill a thin piece of cheese-cloth about two feet square, and fasten the edges down by loose earth. A little twig may be bent in the form of a curve and stuck into the ground to keep the cloth from the plants, though this is not necessary.

The Large Squash Bug.—They have a strong odor like a bed bug. It is a terrible enemy to the squash and pumpkin vines. The only remedy is to tear off the part of the leaf where the young cluster, and crush them under foot and to catch the old ones and destroy them. Application of hot water 150 degrees (Fahr.) will destroy them.



THE SEXTON BEETLE.

The above engraving represents a small dead animal which is beginning to disappear of the consequences of the beetles having dug beneath it. These insects are a sort of scavengers and not injurious, and should not be molested, because they do more good than harm.

HOW TO KILL THE PLUM WEEVIL.

1. Pick up carefully every day all the withered plums that fall prematurely from the trees and burn them.
2. Pasture hogs in a plum orchard and the results are generally very good. No other remedy has ever been successfully tried.

The Cucullid.
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THE CUCULLIA MOTH.

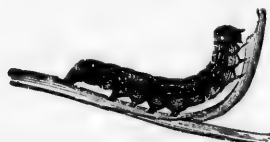
The Cucullia has some very pretty moths and caterpillars. The moths have long, pointed wings, long bodies, and a sort of hood to their thorax, and are called Sharks. They feed upon flowers and plants, and can be easily destroyed by picking them off by hand, as they can be easily picked up; or, if they are very numerous, they can be destroyed by spraying with kerosene oil.

HOW TO DESTROY PLANT-LICE.

There is scarcely a tree, bush or herb that grows in our gardens or fields, that is not infested with some species of plant-lice. Their manner of living, and of reproduction, has attracted much interest. They both deposit their eggs and bring forth their young alive, a peculiarity which does not take place in any of our four-winged insects. Their multiplication is immense, and were it not for their numer-

ous enemies, all our vegetable products would be consumed as fast as they grow.

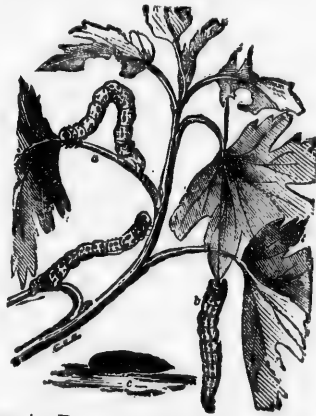
Remedy. When the plant lice get too numerous take a little flower of sulphur, and mix it with a little sawdust, and scatter it over the plants.



How to Kill the Orchard Caterpillar.

The Appletree Caterpillar during the month of May forms large cobweb-like nests in the forks of the limbs of the apple and cherry trees.

Remedy. Take a long pole and tie a large rag in the shape of a ball on the end of it; then saturate the rag with kerosene oil and light it and hold it, for a second only, under the nest. It destroys the nest and worms at once. It takes but a short time to go over the orchard, and it saves the fruit as well as the life of the trees. The same remedy will apply to other trees, such as walnut, etc.



How to Destroy Currant and Gooseberry Worms.

Take a tablespoonful of hellebore and stir it into a pail of water, and apply to the bushes with a sprinkler. One or two applications will generally be sufficient. A little care in watching the bushes is necessary. The worms generally begin at the bottom, and are not noticed until the bush is nearly destroyed.

**THE VINE MOTH.**

The Vine Moth is very common in some sections of the country, and is very injurious to vines. The moths fly in the month of July, and soon lay their eggs on top of the vine leaves, where they are readily seen. During the month of August the little caterpillars are hatched, but they do not begin to eat. Soon each one hangs itself on a silken thread, waiting to be moved to and fro by the breeze until it touches the wooden prop of the vine, or the stem of the plant, and then enters the cracks of the wood or beneath the bark until late in the Spring, and remain in a perfectly sleepy and quiet state. When the hot weather commences again, they climb up the tender shoots and devour everything that comes in their reach. Whole vineyards are often destroyed.

Remedy: Spray with a strong kerosene emulsion when they first make their appearance.

How to Exterminate the Strawberry Worm.

Mow the strawberry plants close to the ground while the worm is among the leaves. Let them dry a short time and pile them up with a little straw and burn them. It is also recommended to burn them right over the roots of the plants. This can be done without much injury to the strawberry plants.

HOW TO DESTROY GARDEN INSECTS.

The Out Worm.—A great enemy of garden plants is the larva of the dark colored miller or moth that enters our dwellings in the evening when the lamps are first lighted. This worm will cut off the plant close to the ground. It is usually done at night, and the next morning the grub can be found just beneath the surface and easily destroyed.

Remedy: Place a lighted lamp or torch in the garden in the early part of the evening, and a pan of water well whitened with milk near by, and many of the moths will fall victims.

**FIG. 1.****FIG. 2**

THE SCREW WORM.

Its Ravages on Horses, Cattle, Sheep, Hogs, Etc.

DESCRIPTION AND CURE.

The mature insect is a fly (Fig. 2.) a little larger than a common housefly, and lays its eggs in wounds, sores, and in the natural openings of man and animals. Young calves are almost invariably affected in the naval, and frequently in the mouth, causing the teeth to fall out. Young colts are often affected in the same way. Barb wire injuries to horses and cattle are the most common sores in which the screw worm is found. Hogs are very liable to become affected by castration and other wounds.

HISTORY. After the egg is laid it becomes a small maggot, which soon burrows itself in the flesh of the wound. The maggot grows steadily in size, and eats more and more every day of the soft flesh around the wound or sore. The worm

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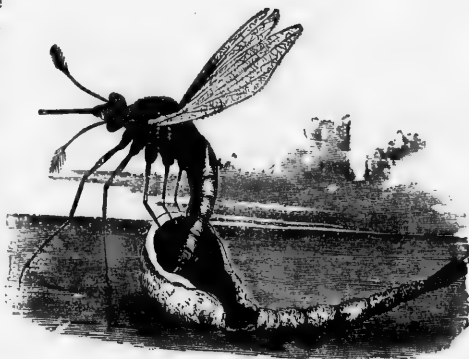
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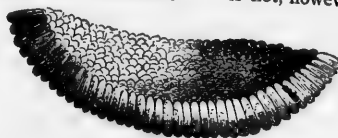
SYMPTOMS.—A swollen, gaping condition of the wound, and the constant discharge of blood. While the sore is unhealed new eggs are constantly being laid, and if the worms are not destroyed, they eat deeper and deeper and often kill the animal.

REMEDY. Cresylic ointment, calomel, chloroform or a little carbolic acid in water. In some cases bandages are useful. In others the sores can be filled with okum and a few stitches taken. All treatment should be supplemented by daubing the margins of the wound with pine-tar to ward off the fly.



MOSQUITO JUST TAKING WING.
(GREATLY MAGNIFIED.)

The Mosquito family is remarkable in many respects. The eggs are deposited on the surface of stagnant water, about three hundred of the eggs are fastened together in the form of a sort of a raft, which floats upon the surface of the water until the mosquito is hatched out. The mosquito, when first hatched, is called a Wiggler, and lives in the water exclusively. It is not, however, like a



A BODY OF MOSQUITO EGGS GREATLY MAGNIFIED.

THE ENEMIES OF THE FARM AND GARDEN.

There is a vast variety of insects that injure or destroy the flowers, vegetables, and shrubbery of our fields and gardens.

Many of these insects are preyed upon by native birds, and it is strange that so few of our gardeners are familiar with this fact. Many of them, while they are in the garden or field battling with the destructive insect, their sons, with air gun or sling, are destroying their best friends. Birds are the friend of the farmer and gardener, and should be protected against the ruthless onslaught of cruel and thoughtless boys.

Many farmers kill the robin and other birds on account of the few berries or cherries they eat, but they ignorantly destroy their friends instead of their enemies. The principal food of birds is insects, and the truly wise farmer should protect his birds, quails and prairie chickens just as much as he does his domestic fowls.

fish, it has no gills, and therefore has to come to the surface to breathe.

When the Wiggler develops, it comes to the top with its back upwa l, which breaks open and a full-winged mosquito appears, the same as seen in the cut above. It rests upon its cast off skin for a short time, and then unfolds its wings and flies.

Remedies for Mosquito Bites.—If mosquito bites are irritable, apply a little soda or saleratus water, or a little lime slacked in water will likewise have the desired effect.

How to Destroy Tobacco Worms.

The tobacco worm, or horn caterpillar, is the chief pest of the tobacco field. The moths appear in June and July, and the female at once lays eggs on the upper surface of the leaves; these hatch in about twenty-four hours, and the worms at once begin to eat. Can be destroyed by spraying with Paris green or London purple, one-fourth pound to fifty gallons of water.



A Remedy for the Harvest Mite, commonly known as Chiggers or Jiggers.

1. These little mites cause about the same irritation of the skin as the itch mite, and are only found in the southern half of the United States and Mexico.

2. They get on the lower limbs and work their way upward on the body. They cut and dig their way into the skin, causing great irritation and annoyance, sometimes swelling and inflammation.

3. REMEDY. Mix equal parts of powdered sulphur and fresh lard, and apply as often as necessary. Also kerosene oil will destroy the insects and allay inflammation.



How to Destroy Cabbage Worms.

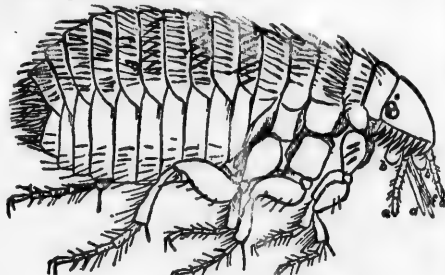
The cabbage worm has been very troublesome of late years, but is easily got rid of. Our plan is to go over the patch in the morning and sift a little fresh Persian insect powder over the heads while the dew is on. This will kill every worm it touches in less than five minutes, and it is but a short job to treat over five hundred heads if a common pepper-box, such as ground pepper comes in, is used to hold the powder. One shake on a calm morning before the breeze starts up is sufficient for a head, and it can be done almost at a walk. This operation should be repeated at least once a week as long as the millers are seen flying around. The insect powder is entirely harmless, and is only poisonous to insect life.

HOT WATER.—Hot water is also an excellent remedy. Apply at about 150 degrees Fahr. No injury to the cabbage will result.

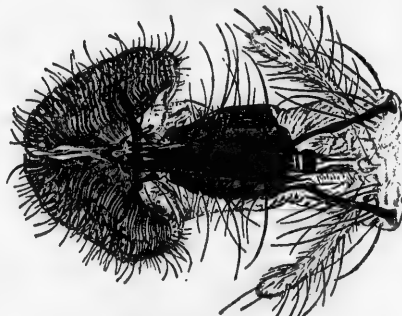


How to Kill Worms on Rose Bushes.

Take a pail of water and stir in a tablespoonful of kerosene and sprinkle the bushes thoroughly. One application will generally be sufficient.



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THE STAG BEETLE.

The Stag Beetle is a very popular bug. It has been known to gnaw its way through lead pipe. It is a very strong beetle the larvæ of which penetrates wood, and is generally found in rotten portions, and is sometimes very destructive to younger trees.

HOW TO EXTERMINATE SPIDERS.

Take a small common kerosene lamp and light it, and late in the afternoon or early in the evening look over the corners and places where spiders are commonly found, and when one is seen hold the lamp chimney directly beneath it, and it will fall at once into the chimney and be instantly destroyed. It is not

difficult in this way to destroy all the spiders in the house in a few evenings. It avoids killing them by sweeping them down and staining the walls and carpet. Early in the evening is the best time.



HOW TO PRESERVE BOOKS FROM BOOK MOTHS.

The little Bristle Tail or Silver Fish has a little long, slender body covered with a delicate silver scale; it has no wings and passes through no changes. It feeds on the paste of the binding of books, devours leaves, eats off the labels in Museums, and is generally destructive to both books and papers.

Books are also eaten by the larva of a little bug that produces a ticking sound like a watch — it is called the "Death Watch," as it is usually heard in the night ticking like a watch.

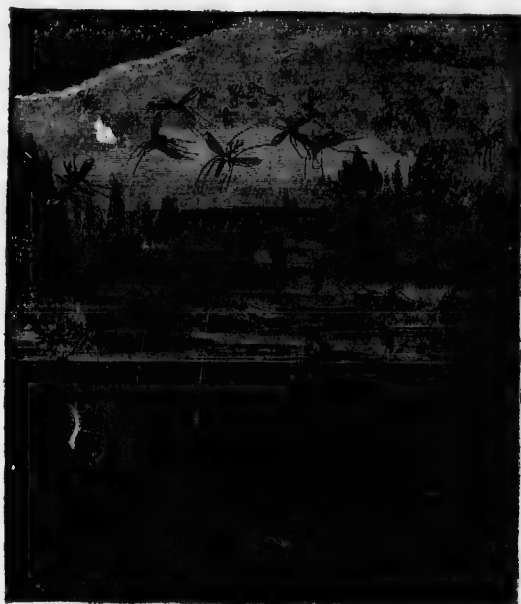
REMEDY. A little rag saturated with benzine or carbolic acid placed along the back of shelves will clear the library of all insects. Insect Powder sprinkled over the books will destroy the little "Silver Fish" insect instantly.



A CURE FOR BEE AND WASP STINGS, SPIDER BITES, Etc.

1. The cure for insect stings is very simple. Scientists have found that the poison injected by the insect is an acid, and hence any alkali is an excellent remedy.

2. REMEDY. Apply ammonia or common soda and water. If there is much inflammation and redness, apply a solution of borax and warm water. Apply with a rag saturated with the solution.



GNATS.

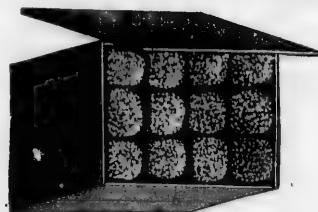
The natural history of the gnats is full of interest, and even the common gnat is well worthy of study; and we almost wonder at finding such a bloodthirsty and annoying being in so delicate and fragile a body. The gnat has a very elaborately constructed offensive weapon in its mouth, the structures of which, although excessively delicate, can do their perforating duty perfectly. All the pieces of the mouth are free, and the jaws are in shape of sharp blades, toothed on their margins. Gnats abound in marshy districts, and where there is stagnant water, for their larva are in the water, but cannot live in running streams. They are very fond of such places as water tubs in gardens, and it does not much matter if the water is not quite fresh.

HOW TO KEEP OUT MOSQUITOES.

If a bottle of the oil of pennyroyal is left uncorked in a room at night, not a mosquito, or any other blood-sucker, will be found there in the morning.

HOW TO DESTROY ANTS ON THE LAWN.

Boiling water, kerosene, or a solution of fresh insect powder in water, poured into the hill, will destroy the inhabitants at once. Where the nests are outside of the house this is a sure remedy.



A BOX OF SPONGES.

A NEW WAY OF TRAPPING ANTS.

1. Ants are very difficult pests to expel from the house. There have been many receipts and experiments tried, but without any satisfactory results.

2. The ants that infest our houses live only in rotten wood, either in the decayed sills of the house or in rotten timbers and old fences near by. It is best to remove all such hiding places if possible.

3. REMEDY. Ants are very fond of sugar, and anything containing it will attract them. Sweeten a pan of water to a thin syrup, and then dip a large sponge into it, and wring it out. Place the sponge where the ants can get at it; it will soon be filled through and through with ants, then take it up carefully and plunge it into boiling water, and again set it by, saturating it with the thin syrup. A few days' trial will, for a long time, exterminate the annoying pests.

This is the only successful experiment ever tried.

4. A trap more simple but not so effectual is a plate covered with a thin layer of lard and placed where the ants can easily get at it. This trap is more to destroy the little yellow ant than the larger species.



HOW TO DESTROY ALL KINDS OF HOUSE INSECTS.

1. Insects do not grow by imperceptible increase in size as a bird or cat. All insects pass through several changes from the egg to the perfect state. The horrid caterpillar that crawls in our path to-day will soon be seen flitting among the flowers in the form of a beautiful butterfly.

2. To destroy house pests successfully, the history of the insect, from the egg to the perfect state,

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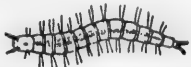
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must be well known. The successful housekeeper may always be a close observer and a careful student in order to keep her house free from noxious insects.



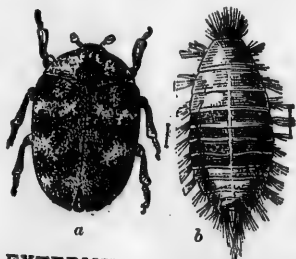
HOW TO AVOID FLEAS.

1. There are no human fleas in North America. The dog and the cat flea are the only species that annoy us.
2. The eggs of the flea are very small, white and oblong, and are laid on the dog or cat, and, being sticky, adhere to the hair until they are ready to hatch, when they fall to the ground. They hatch in about a week and in less than two weeks attain their growth. They then pass through a pupal stage, and in two weeks more the perfect flea appears. They flourish best in sandy soil.
3. REMEDY. Put olive oil on the dog or cat or both, as the case may be, and rub it into the hair thoroughly, and after a few hours wash out with warm water and soap.
4. Dalmation Insect Powder rubbed into the hair and sprinkled around the dog's kennel or the cat's sleeping place is also a good remedy.

A DOMESTIC REMEDY FOR DESTROYING FLIES.

$\frac{1}{2}$ tablespoonful black pepper, in powder,
1 teaspoonful brown sugar,
1 tablespoonful cream.

Mix them well together, and place them in the room on a plate where the flies are troublesome, and they will soon disappear.



HOW TO EXTERMINATE THE CARPET BUG.

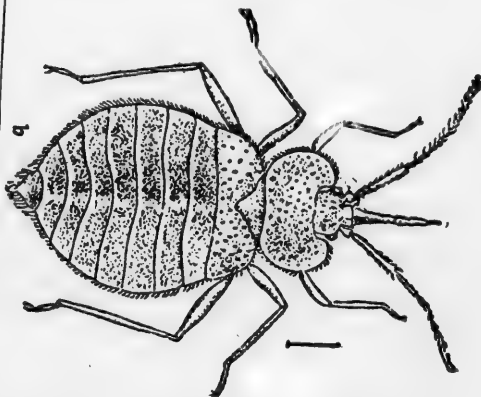
The Carpet Bug (*Anthrenus Scrophulariae*), or Buffalo Bug, as it is sometimes called, was first noticed in the city of Buffalo, New York.

The grub which does the damage is about one-fourth of an inch in length. It is covered with hair, as shown in the above illustration *b*. It spins no cocoon like the

caterpillar, but when full grown the skin splits on the back and shows the insect. A few weeks later the skin bursts again, and the perfect little bug, as shown in *a*, appears. It is marked with red, black and white spots, and is less than one-eighth of an inch in length.

REMEDY. When once in a carpet it is a very difficult insect to destroy. In some houses carpets cannot be used, as they are eaten as fast as they can be put down. Tallowd paper placed around the edges of the carpet is a very good preventive.

When a carpet is cut as if with scissors following the seams in the floor, the simplest and safest remedy is to pour benzine in very small quantities along the seams; also running a hot flat-iron over along the seams of the carpet is very destructive to both the insect and the eggs. Sprinkling the paper with benzine before the carpet is tacked down is an excellent precaution.



HOW TO GET RID AND KEEP RID OF BEDBUGS.

1. The eggs of the bedbug are white in color and oval in shape. The young resemble the parents, and it takes about eleven weeks to get its full growth. Like reptiles, they can live many years without food. Mr. Goetze, of Germany, has kept them six years in a bottle without a particle of nourishment of any kind.
2. Keep the bedding and bedstead perfectly clean is the best preventive.
3. REMEDY. Pour hot water into the crevices and then apply benzine to the different parts of the bedstead.
4. Unpurified petroleum mixed with a little water is also a sure remedy. Corrosive sublimate is a very good, but a very poisonous cure.

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INSECT REMEDIES, AND HOW TO APPLY THEM.

1. **Large Ants.**—There are certain large ants that are frequently troublesome on lawns, by making their nests above the surface of the grass, and thus disfiguring them. A simple way of destroying these is recorded by Dr. Riley as follows: A number of holes are punched in the nest by means of a pointed stick. A tablespoonful of bisulphide of carbon is then poured down each hole, and a damp blanket is thrown over the nest for a few minutes—then the blanket being removed the bisulphide is exploded at the mouth of each hole by means of a light at the end of a pole. The slight explosions drive the poisonous fumes down through the underground tunnels, killing off the ants in enormous numbers.

2. **Bed Bugs.**—Spraying the cracks of walls, beds, etc., where these insects occur, with benzine, is the best manner of destroying them. This substance kills the eggs as well as the adults. Great care, of course, should be taken to prevent their ingress to the house.

3. **Cockroaches and Croton Bugs.**—The best remedy for these pests is a good quality of insect powder, such as Buhach.



4. **Horse Fly Remedy.**—The little black fly, injurious and annoying to horses and cattle in the months of July and August, is very difficult to manage, but in case they are very severe, or a horse or cow or other animal is sick, apply carbolated fish oil.

5. **Cattle and Horse Lice.**—The best method of destroying lice on cattle and other domestic animals is to

apply a thoroughly prepared emulsion of kerosene and soap. If this is well made it can be applied to cattle and horses, hogs and sheep, with no danger of injury to them, while it will destroy all the lice with which it comes in contact.

6. **The Clover Hay Worm.**—It will readily be seen that these insects are more likely to prove troublesome when old hay is left over from season to season for them to breed in. Consequently hay mows should be thoroughly cleaned out each summer, and new stacks should not be put on old foundations until all the leavings of the previous season are removed. Hay which is thickly infested by the worms should be burned.

7. **The Clover Leaf Beetle.**—The only remedy yet suggested is that of plowing under infested fields during May or June, thus destroying the immature stages.

8. **The Raspberry Root Borer.**—No other remedy than that of cutting out the larvæ, or pulling up and burning the infested canes has yet been discovered. Fortunately this insect is rarely sufficiently numerous to do serious injury. It occurs in wild as well as cultivated lands.

9. **The Raspberry Slug.**—These insects can be easily destroyed by dusting or spraying the infested bushes with powdered hellebore. In spraying use from one-half to one pound of hellebore to fifty gallons of water.

10. **Plum Curculio and Other Insects.**—As soon as the blossoms have all fallen, and never before, spray trees with Paris green and water (3 ozs. to 50 gallons), and repeat the operation two or three times at intervals of ten days or two weeks.

11. **Codling Moth, Plum Curculio, and Other Pear Insects.**—Soon after the blossoms have fallen spray the trees with Paris green in water—3 ozs. to 50 gallons—to destroy the Codling Moth and Curculio. Repeat the application ten days or two weeks later. If the pear tree slug appears in the latter part of June, spray again then. In the case of danger from the bark lice, or apple tree borers, carry out the treatment recommended under the special head.

12. **Other Apple Insects.**—As soon in spring as the blossoms have entirely fallen, the trees should be sprayed with Paris green and water—3 ozs. to 50 gallons. The application had generally better be repeated ten days or two weeks later. This will check both the fruit and leaf eating insects.

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PROTECTION AGAINST MOTHS

In May the clothes moth begins to fly about our rooms. It is a small, light buff colored "miller," dainty and beautiful on close inspection. Its highest mission seems to be to teach us to set our affections only upon incorruptible treasures which "moth and rust cannot destroy." But it is necessary to keep a sharp lookout for the safety of our furs and flannels, and we must wage war upon it. In the first place we must carefully put away everything we can, upon which it will lay its eggs. If we pack away our furs and flannels early in May, before the moth has begun to lay its eggs, and leave them in boxes and bags so tight that the flying moth cannot squeeze in, no further precaution is necessary. Clean paper bags are recommended for this purpose, those used for flour and meal bags. They should be without holes or openings anywhere. These bags, when filled and closed firmly, may be put away on closet shelves or in loose boxes, without danger to their contents, so far as moths are concerned, without need of camphor or other strong odors to drive moths away. Furs are usually sold in boxes in which they may be kept. Beat them well when you finally put them away for the season. If you delay putting them away until June, examine the furs well, and shake and beat them thoroughly, in order that any moth eggs that may possibly have been laid in them may be thoroughly removed or killed. Furs sealed

up early in May need no camphor or tobacco or other preventive. Muff and tippet boxes should be tied up securely in bags, or made safe by mending holes and pasting a strip of paper around the juncture of the cover with the box below, so as to close all openings. Woollen garments must not hang in closets through the summer in parts of the country where moths abound. They should be packed away in tight trunks or boxes, or sealed up in bags. Woollen blankets must be well shaken and carefully put away, unless they are in daily use. Early in June the larvae of the moth begin their ravages, and then, unless you dwell in places where moths are not found, look sharp, or you will find some precious thing that you have forgotten—some good coat unused for a few weeks, or the woollen cover of a neglected piano—already riddled by the voracious moths. It is their nature to eat until they have grown strong enough to retire from the eating business and go into the chrysalis condition.

Some things cannot be well packed away in tight boxes and bags, and among these it is well to scatter small lumps of camphor or clippings of Russia leather. Some use tobacco, though I think camphor is usually preferred. It is said that powdered black pepper, scattered under the edge of carpets will preserve them from attacks.

MODERN REMEDIES FOR INSECT EXTERMINATION.

1. **Various Kinds.**—The most effective remedies for the extermination of insects are poisons. The most popular are Paris Green, London Purple, and Slug Shot. The most of the patent remedies for insect extermination are made up largely from these preparations.

2. **Effects upon the Insects.**—There are but two principal methods used in the extermination of insects: First, giving internal poisons, or those which take effect by being eaten with the ordinary food of the insects. The second method for the destruction of insects is, to apply external irritants, or those which affect the outside—closing the breathing pores of the insect, or causing death by irritating the skin.

3. **Paris Green.**—Paris Green is made up of arsenic and copper. It contains about sixty per cent. arsenic. It is the basis of all the best insect sprays that are now in use. Place three ounces in fifty gallons of water, or smaller quantities in proportion, and it makes one of the best remedies for the extermination of insects upon foliage now known. Care must be taken that the solution is not any stronger than the above preparation, or it will kill the leaves.

4. **London Purple.**—London Purple is obtained in the manufacture of aniline dyes. It contains about fifty-five per cent. of Paris Green. It may be used the same way as Paris Green, but it is more liable to injure the foliage of trees and plants. If London Purple is used, the solution should be much weaker, about two ounces to forty gallons of water.

5. **Hellebore.**—Hellebore is the powder made from the roots of a plant known as the White Hellebore. It is a very mild poison, and kills insects by contact, or by being eaten. It may be used dry, or it may be applied by mixing a tablespoonful of it in a pail of water and use it as a sprinkle or spray.

6. **Tobacco.**—A decoction of tobacco juice from the stems and refuse of tobacco is used by many for insects, and the stems and refuse after being steeped make an excellent fertilizer around the vines, and will also keep off the insects.

7. **Coal Tar.**—Coal tar is used in the West to destroy the Rocky Mountain Locusts, being placed on the rails and boards upon which the locusts jump. It is also employed to prevent the migrations of Chinch Bugs. Make a shallow ditch and pour in the tar along the border of it. It will keep the Chinch Bugs from entering the adjoining field.



ROY WILKES, 2:07½.
DIRECT, 2:05½.
GUY, 2:06½.

THE PACING STALLION CHAMPIONS.

ONLINE, 2:11.
STORM, 2:08.

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HISTORY

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THE FIRST TROTTING IN AMERICA.

Until 1823 we have but little authentic information that regular trotting courses were established, and not until 1830 were fast trotting courses established. The first public trotting in America for a stake was a match against time for \$1,000.

In 1824 A. M. Giles trotted his horse twenty-eight miles in one hour and fifty-seven seconds. The same year Topgallant and Betsy Baker were matched to trot three miles in a harness for \$1,000 a side. The race was won by Topgallant by forty yards in 8:42. Topgallant also trotted twelve miles on the road in thirty-nine minutes. The "Albany Pony" did a mile in 2:40. The Treadwell mare did one mile in 2:34, and Boston Blue trotted eighteen miles within an hour. Boston Blue is reported to have been the first horse that trotted a mile in three minutes, it having been done in 1818, so that it will be seen that the Treadwell mare in 1824 had reduced that time to 2:34. Yet for many years after a 2:40 horse was considered extraordinary, as also was any horse capable of going on the road in three minutes.

In 1827, on the Hunting Park Association of Philadelphia, Screwdriver won two heats at two miles, beating Betsy Baker in 8:02 and 8:10, the two best times on record. Dutchman afterwards accomplished the same distance in 7:32½, and Lady Suffolk in 7:40½.

In 1840, on the Long Island course, Jerry beat Whalebone in a three-mile trotting race, in 8:23 the first heat, and 8:15 the second. The best time for two-mile heats that year was 5:22, 5:21 — for three miles, 8:26, 8:27, 8:41, 8:56. At a long distance Sweetbrier accomplished six miles in 18:52.

In 1834, Edwin Forrest, as yet an unentered horse, trotted his mile in 2:31½, beating Sally Miller. The course was one mile ten yards in length.

In 1835 Dutchman made four miles under the saddle in 11:19 and 10:51, and Dolly five miles to a wagon, carrying two men, weighing 310 pounds, in 16:45, and immediately was started again to do ten miles more, which she accomplished in 34:07. The same year the

horse Daniel D. Thomkins, under the saddle, trotted three-mile heats in 7:59 and 8:10.

In 1842 Ripton beat Lady Suffolk at two miles in harness, in 5:07 and 5:17.

In 1843 Lady Suffolk made mile heats in 2:28½, 2:28, 2:28, 2:29 and 2:32, which was not again equaled until 1854, when this record was covered by Tacony.

In 1844 Cayuga Chief made the first half-mile in a race in 1:15, the fastest yet made in public, and Fanny Jenks accomplished 100 miles, in harness, in nine hours, thirty-eight minutes and thirty-four seconds. The slowest mile was done in 6:25; the fastest in 4:47. At the end of the race the mare was driven an extra mile in 4:23.

In 1849 Lady Suffolk trotted nineteen times and won twelve, beating Gray Easel and Mac twice, Pelham five times, Lady Sutton twice, Trustee four times; also beat Black Hawk, Gray Trouble, Plumbay and other horses. This year a Canadian mare, Fly, is said to have been driven from Cornwall to Montreal, ninety miles, in eight hours and fifteen minutes. Fanny Jenks made 100 miles in nine hours, thirty-eight minutes, and thirty-four seconds. Fanny Murray trotted 100 miles in nine hours, forty-one minutes and twenty-three seconds.

In 1852 Tacony won twelve races, beating all the fast horses of the day, making a single mile in 2:26, two miles in 5:02, and was beaten only twice. As a three-year-old, Ethan Allen trotted this year in 3:20. Flora Temple this year won her first purse, on the regular turf, in 2:41.

In 1853 the entire sporting interest was centered in Flora Temple and Tacony. Flora this year beat all the best horses of the day, winning seventeen times. Her best time at mile heats was 2:27, 2:28, and at two-mile heats 5:01½, 4:59. This year Tacony trotted a mile in 2:25½.

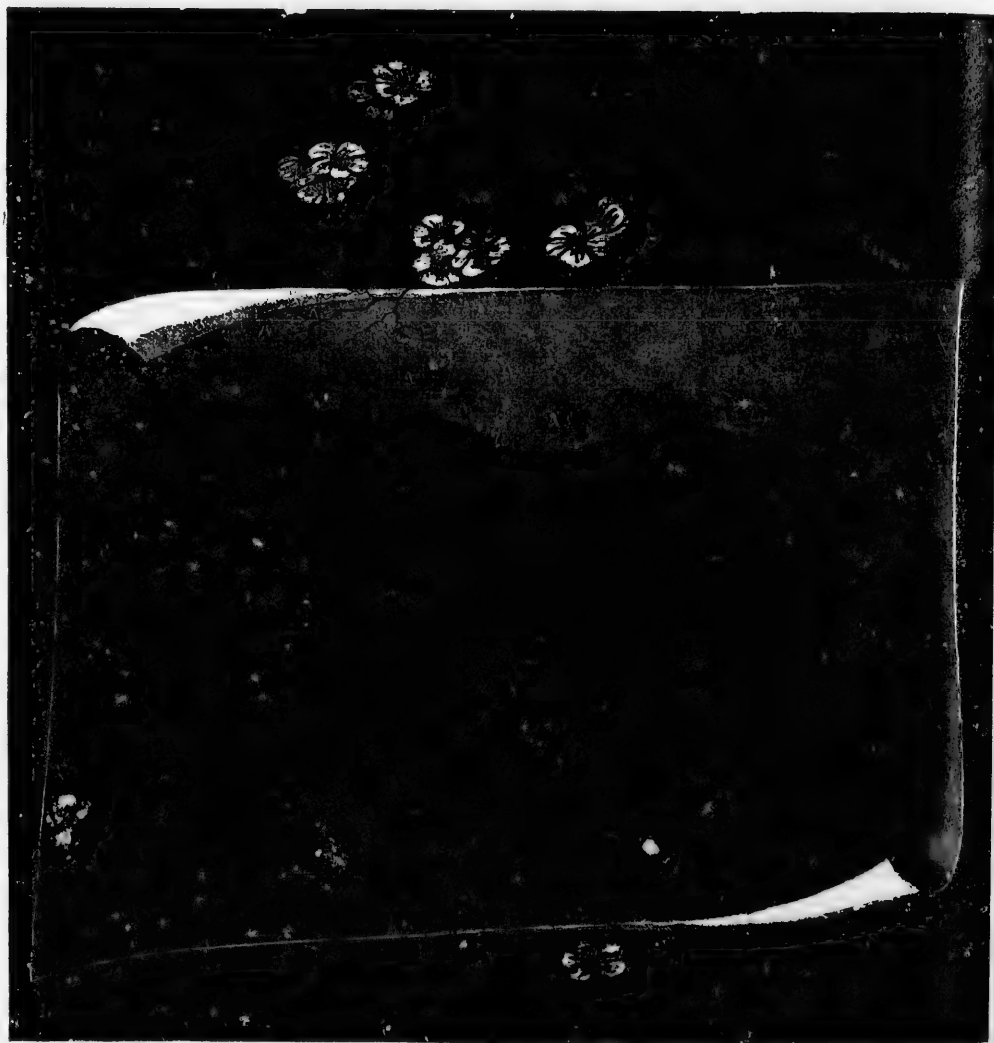
In 1856 the contest lay principally between Flora Temple and Lancet. Flora made eleven races, winning nine, beating Lancet four times in harness, Tacony going under the saddle. This year Flora Temple lowered the one mile record to 2:24½.



ROY WILKES, 2:07½.
DIRECT, 2:05½.
GUY, 2:06½.

THE PACING STALLION CHAMPIONS.

ONLINE, 2:11.
STORM, 2:08.



The Mother of Trotters. Flora Temple.

2:19 $\frac{3}{4}$

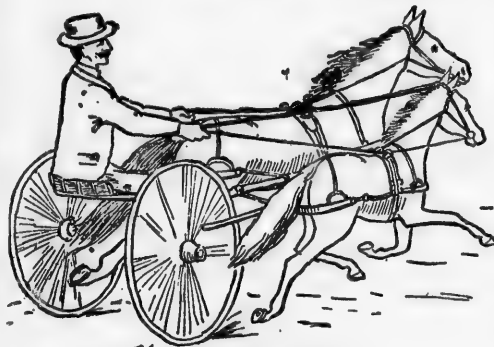


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HOW TO BREAK AND TRAIN COLTS.



A COLT'S FIRST LESSON IN TROTTING.

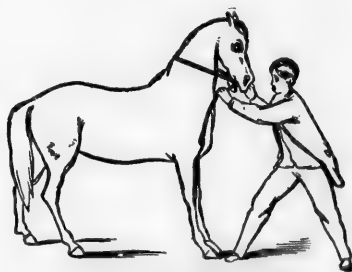
1. It can be truly said that as soon as a colt is weaned his training begins, or should begin, for I hold that it is the early handling which makes him a tractible and domestic animal. It is education and not hereditary influence that man has had over him for thousands of years that makes him submissive. It is known that when a young white child, one whose parents have led a civilized life for a thousand years or more, has been stolen and reared to manhood by wild Indians, that the only difference between him and his adopted parents is color. The horse, dog and hog I know from personal observation will turn out the same way. Hence I say that it is very important that colts should be handled early. In fact, I believe they should be broken to the halter before they are weaned.

2. **Feeding.** Several months before weaning, the mare should be fed on or near the ground where the foal can have access to the feed-box; then when taken from his dam he will not fret, and instead of running around looking for her, he will go to his feed-box and console himself by eating oats. All through the first winter, the colt should be provided with good, comfortable quarters at night, and turned out in the pasture or large field during the day, so that he can take his exercise, which is indispensable to good health.

3. **Bridling and Driving.** After the colt is halter broke, slip on the bridle and back saddle, and after the colt is used to this rigging drive him around with the lines until he learns to go straight, back and turn. Now begin his primary trotting lessons by putting him alongside a steady-going old mare to cart or sleigh. Simply

snap the lead strap, about two or three feet long, to the shaft near the girth and have a long rein leading from the other side. Then take your seat and start the pair. It is surprising how quickly the colt learns to fall in line with the movement of the mare. After awhile put on the breeching and traces, fasten them securely tight on the girth and have a ring in it near the shaft-bearer; buckle a strap ten or twelve inches long, with a snap on the other end, to the shaft of the vehicle and snap it to the ring in the colt's girth. Now use a pair of long reins on the colt, and so permit the free use of his head. He has no weight to draw and will soon drop into a steady stride, and unwittingly grow way-wise. Presently his muscle and strength are sufficient to enable him to go alone. About the first of the year try him to a light cart or sleigh. Begin with slow, short lessons. This is the critical period of the colt's career. With proper handling he may become a race horse or a plug; all depends upon the breaking.

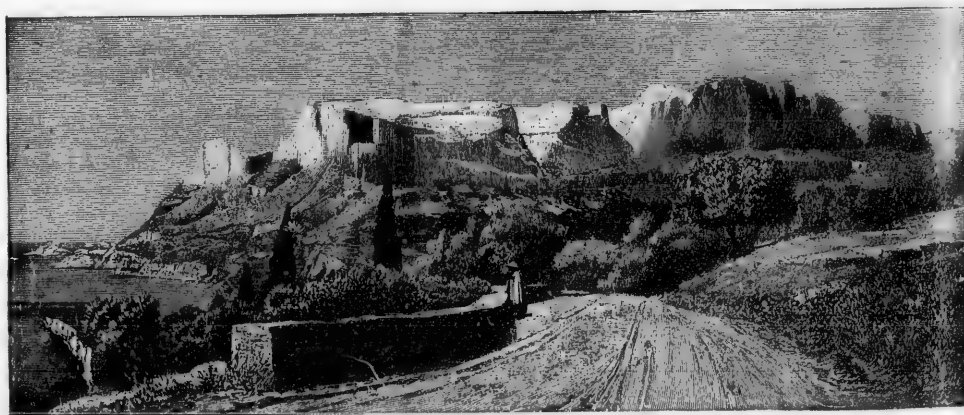
4. **Intelligence of Horses.** — Trainers, jockeys, and many owners must know that the colt is a very poor reasoner. Mentally he is the weakest of all our domestic animals except the sheep; therefore, when once he is taught a trick or is allowed to do a certain act not wanted of him, it is with great difficulty that he can unlearn what he has already learned, on account of his mental weakness. A horse kicks his master to death when turned upside down with foot in stirrup, because in that position the horse does not know what his master is, and suffers from imaginary fear. He kicks the shafts of a buggy until his legs are broken, because he does not know that the shafts are harmless and that he himself is doing the damage. He runs away under the saddle or in the harness, because he hasn't sense enough to know better. I heard a man, and one who claimed to be a horseman, say, not long ago, that a certain horse has more sense than the average boy. I saw the same horse shortly afterward nearly turn a buggy over, trying to get away from a piece of paper that was fluttering across the road. I asked this gentleman the following question: "Suppose a boy should butt his brains out running away from a piece of paper, what would you think of him?" "Why, he would be an infernal fool." "And so is r horse," said I, "who frightens at nothing." It is our love and admiration which makes him so smart and beautiful in our eyes, like the woman and her babe, always the brightest and the prettiest. Affection warps the judgment.

**BREAKING A VICIOUS COLT.**

Tie a Rope with a Slip-Noose on Lower Jaw, then Bring It Over the Neck as Above.

5. **Ignorance of Drivers.**—When trainers and jockeys once fully understand the horse, then training will become more perfect than it is now. There is too much superstition and not enough intelligence among the average trainers at the present time. They often do things without knowing why they do so. All follow each other without investigation or inquiry. Training has improved by slow degrees, because the trainer's mind heretofore has groped in the midnight of ignorance. For years they sweated the horse to death, yet they could not give any suitable reason for their practice, and to-day they follow many practices which are not sound. For instance, when a horse is to be given a trial he will be

galloped, say a mile and a half or two miles, and the last quarter the horse will be sent along at nearly and sometimes full speed; after a breathing spell and a little rubbing he is sent on his trial. Often a horse is given a sharp run just before he starts in a race. Both of these practices are against reason and common-sense. A horse should never be speeded just before a race. It would be just as proper to have a fighter make four or five rattling rounds with some one just before going into the ring to fight for his life. The ordinary gallop of the horse in condition is sufficient for a warming up, and fast work just before a race is a waste of force.

**Biting Harness.****THE DESERTED LAND**

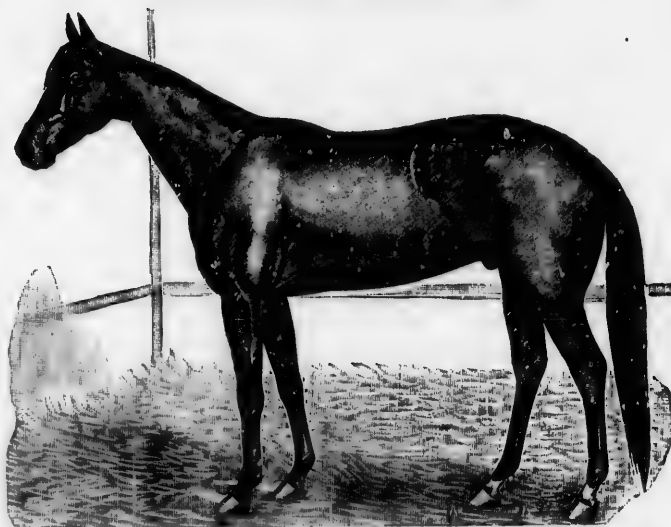
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JAY EYE SEE.

HOW TO TELL A GOOD HORSE, AND PRACTICAL RULES FOR PURCHASING.

1. In a good horse the ears must be small and pointed and wide between. The eye must be large and full and stand out prominently.
2. An intelligent horse must have considerable width between the eyes. The nostrils must be large and thin, neck long and tapering, with stout heavy muscles on the top and thin through the middle.
3. A good horse must always have a short back, broad and long hips, and close jointed. A good traveler must have proper proportions, namely: the withers should be exactly midway between his ears and the coupling of the hip. From the point of the withers to the shoulder should be just as long as from the coupling over the kidneys to the point of the hip by the tail.
4. A horse which has thick ears; small, flat, sunken eyes; small, thick nostrils, and is narrow between the eyes and ears, with a thick, clumsy neck or a curved nose, is a horse that is liable to be vicious, clumsy, awkward or balky, and never can be taught anything.
5. The first thing for the purchaser to observe are the eyes.
6. If the eyes are clear and full and brilliant, the horse possesses good sight; but when the eyes are flat or sunken and have a dead and lifeless look, the horse will probably lose his sight in the course of a few years.
7. The iris or circle that surrounds the sight of good eyes should be distinct and of a pale cinnamon color.
8. The teeth should be sound and as to age, see *Teeth* in another part of the book.
9. The feet should be smooth and tough, of a middle size, without wrinkles; the frogs horny and dry.
10. A good horse for traveling or service must be wide across the chest.
11. The back should be straight or have only a moderate sinking below the withers. The ribs should be large, flanks smooth and full. A horse for strength and durability should have considerable width across the hips.
12. A broken-winded horse pinches in his flanks, with a very slow motion, and drops them suddenly. A horse with the heaves can be easily detected by noticing the movement of the abdomen in breathing. Always have the horse travel by walk, trotting and running, to see that there is no lameness.
13. A horse that travels with his feet very low is very apt to be a stumbler. See that the horse lifts his feet well in taking a step. To remedy the difficulty of stumbling put on heavy shoes, it will make the horse lift his feet higher. See that the horse is gentle by placing your hand on different parts of the body.
14. Remember that he who buys a horse needs a hundred eyes.

\$200

Dollars
sound,

HORSE BUYER'S RECEIPT.

179



THE STANDARD BRED TROTTER CLONMORE, No. 5288.

Clonmore is by Cannaught, 2:24, a Son of Wedgewood, 2:19. His Dam, Hopeless, is by Hermes, 2:27½.

BUYER'S RECEIPT.

The buyer in the purchase of a horse should always demand the following receipt:

\$200.00

Syracuse, N. Y. May 12, 1895.

Received of John D. Morehouse, Two Hundred Dollars, for a dark brown Mare, warranted only six years old, sound, free from vice, and quiet to ride and drive.

Frederick C. Donaldson.

N. B.—He who uses this receipt will never be swindled in the purchase of a horse.

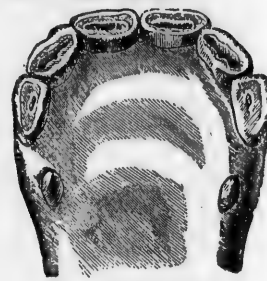
HOW TO TELL THE AGE OF THE HORSE.



Two Years' Teeth.



Three Years' Teeth.



Four Years' Teeth.



Five Years' Teeth.



Six Years' Teeth.



Seven Years' Teeth.



Eight or Nine Years' Teeth.

The only way to determine a horse's age is by the appearance of the teeth. They undergo certain changes, which any careful observer will easily notice. A horse has 40 teeth—24 grinders, 12 front teeth and 4 tusks. A mare has 36 teeth—24 grinders, 12 front teeth, sometimes tusks, but not often.

1. Eight to fourteen days after birth, the first middle nippers of the set of milk teeth are cut, four to six weeks afterwards the pair next to them, and finally, after six or eight months, the last.

2. All these milk teeth have a well defined body and neck, and a slender fang, and on their front surface grooves of furrows, which disappear from the middle nippers at the end of one year, from the next pair in two years, and from the incisive teeth (cutters) in three years.

3. A New Method.—

- 14 days old, 4 nipper teeth.
- 3 months old, 4 middle teeth.
- 6 months old, 4 corner teeth.
- 1 year, cups leave nipper teeth.
- 2 years, cups leave middle teeth.
- 2½ years, sheds nipper teeth.
- 3 years, full size nipper teeth.
- 3½ years, sheds middle teeth.
- 4 years, full size middle teeth.
- 4½ years, sheds corner teeth.
- 5 years, full size corner teeth.
- 6 years, large cut in corner teeth, small in middle teeth, and still smaller in nipper teeth.
- 7 years, cups leave nipper teeth.
- 8 years, cups leave middle teeth.
- 9 years, cups leave corner teeth.
- 10 years, groove in upper corner teeth.
- 15 years, half-way down upper corner teeth.
- 20 years, at the bottom corner teeth.

4. The teeth grow in length as the horse advances in years. But at the same time his teeth are worn away by use about one-twelfth of an inch every year, so that the black cavities of the center nippers below disappear in the sixth year, those of the next pair in the seventh year,

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and those of the corner teeth in the eighth year. Also the outer corner teeth of upper and lower jaw just meet at eight years of age.

5. At nine years old, cups leave the two center nippers above, and each of the two upper corner teeth has a little sharp protrusion at the extreme outer corner.

6. At the age of ten, the cups disappear from the adjoining teeth.

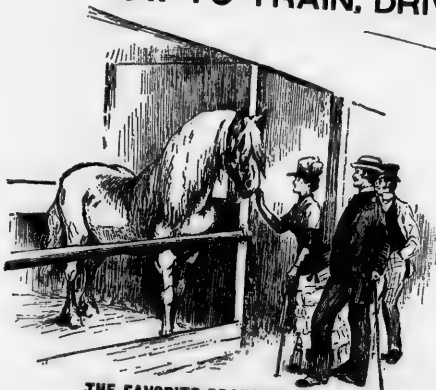
7. At the age of eleven, the cups disappear from the corner teeth above, and are only indicated by brownish spots.

8. The oval spots become broader, and change, from the twelfth to the sixteenth year, more and more into a triangular form, and the teeth lose, finally, with the twentieth year, all regularity.

9. The tusks, or canine teeth, conical in shape, with a sharp point, and curved, are cut between the third and fourth years, their points become more and more rounded until the ninth year, and after that, more and more dull in the course of years, and lose, finally, all regular shape.

Mares have, frequently, no tusks, or only very faintly indicated ones.

HOW TO TRAIN, DRIVE AND BREAK HORSES.



THE FAVORITE DRAUGHT-HORSE.

TEACHING TEAMS TO PULL.

It is a real pleasure to have a team that can be relied upon to pull whenever wanted to do so. Any team, if not of a too highly nervous temperament, may be trained to perfect reliability. We need first of all and forever after to recognize that the horse has a mind and at least the mental qualities of memory and affection. The consideration of paramount importance, this matter, according to the view of a writer in *National Stockman*, is to develop the team's confidence in themselves and in their driver. It is just as true of a horse as of man, that he will not exert himself greatly over what he has no hope of accomplishing. But different from man, the horse thinks of previous loads instead of the one to which he is attached. This is the reason a balky horse is apt to refuse to pull a very light load. He has no way of estimating his load only by pulling upon it. Hitch a horse to a very heavy load, let him pull upon it, then transfer him to any empty wagon and start him. You will see him gather himself for a heavy pull. He has in mind

the heavy load. Had the horse been stalled with a heavy load, and whipped until the driver and horse were both certain he could not pull it, you would have a horse thoroughly broken not to pull. This writer says:

"Let me impress the truth of this by calling to mind another illustration of the result of similar treatment. I have seen men who had horses given to pulling upon the halter, put one on them they were confident the horses could not break, and then whip them over the head in order to make them pull. Nearly always when a horse finds he can not pull loose he will walk up to the hitching post. I have heard men argue that a horse could be so thoroughly broken in this way that a tow-string would hold him. There is some truth in it, though not all horses are to be managed in the same way. A horse of nervous temperament should never be excited. They will always do their best in a perfectly calm state of mind.

"The drivers of fast trotters have taught us this. They have also learned that to keep the horse calm all men in attendance must remain so. No passionate, profane man ever developed great speed in a horse nor trained a powerful pulling team. With these general principles in view, and proper attention to details, any team may be trained so that it will be a delight to work them.

"Have a definite and small vocabulary to use with your team, and always use the same word for one purpose. Keep the same two horses working together, and always on the same side. Use open bridles, so that the team can see what is going on around them. Keep all attachments strong, that your team will not be in fear of straining themselves through something breaking. Use close-fitting collars and harness, and never allow a horse to become sore from any part of the harness. Teach your team to start together. Keep them strong and in good spirits by good and regular feeding, and good care in every particular. Let them come to heavy pulling gradually, and not at all until their bones are well matured."

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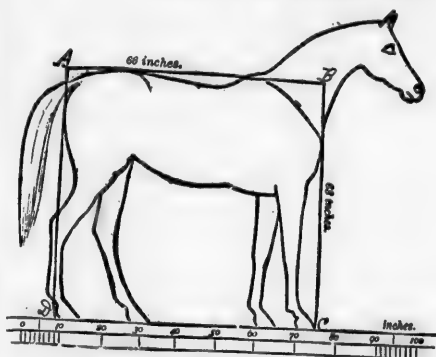
THE BAY PACING STALLION "ONLINE," TWO YEAR OLD RECORD 2:11, BY SHADELAND ONWARD.



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HOW TO PICK OUT A TROTTING HORSE.



Girth varies from 76 to 80.

Circumference of arm just below the elbow, $16\frac{1}{2}$ to 18 inches.

Horses for speed must conform to the following proportions. No noted trotter has ever varied to any extent from the following figures:

	INCHES.
....Height at withers and croup.....	63
Length from shoulder-point to quarter.....	66
From the lowest part of the chest to the ground..	36
From the elbow-point to the ground.....	39
From the withers to the pole, just behind the ears, in a straight line.....	30
The same measured along the crest.....	32
Length of head.....	22
Width across the forehead.....	$9\frac{1}{2}$
From the withers to the hip.....	22
From the stifle to the point of the hock, in the attitude shown in the plan.....	28
From the root of tail to stifle-joint.....	26
From the point of the hock to the ground.....	$22\frac{1}{2}$

HOW TO TELL THE DISPOSITION OF A HORSE.



A STUBBORN AND MULISH HORSE.

1. Every one should remember that a horse can not understand all language or words of command, except so far as he is taught to associate them with actions, consequently a horse can not know what to do until he is taught.]

If a man were to sit on a block and simply read the word

"whoa to a horse, he might do it indefinitely without teaching him its meaning; but if a horse were moved, set in moderate motion, and immediately after command the reins were pulled, he would soon be taught to stop. The same performance is necessary in teaching a horse to back. For the same reason the team on a street car starts and stops at the sound of the bell; it is because they have become accustomed to being started and stopped at that time

2. VICIOUSNESS.—To a certain extent some horses are vicious, but the fault is not so much in the horses, as in the fact that they have not been properly handled or carefully trained.

Many bad dispositions in horses have been brought on by the bad disposition of those who had them in charge.

Some horses are dull, while others are intelligent; some are more easily frightened than others, consequently great care and judgment should always be exercised in training the horse. For good training largely makes the horse.



A VICIOUS HORSE.



AN EXCITABLE HORSE.

Fig. 3 is an animal that will tax the strength of his owner in order to keep him in proper subjection. He is full of life and excitable, and is liable to be very skittish, and will run away at any opportunity without considering the interest of the owner.



AN INTELLIGENT HORSE.

INTELLIGENCE.—There is just as much difference in intelligence of a horse as there is difference in men. Some horses can be taught most anything, while others are apparently without any faculty of intelligence.

The horse in Fig. 5 requires a gentle but strong hand in order to get the best possible results. He is high strung and nervous and will never under any circumstances bear the use of the whip. He will go until he falls in his tracks.



A HIGH STRUNG HORSE.



A DULL AND STUPID HORSE.

Fig. 6 represents one of those indifferent specimens of horses, heavy, dull and stupid. He can be driven, but his gait makes it an annoyance rather than a pleasure, for it is almost an impossibility to get him to go faster than a walk. He is a horse that tries the patience of a saint, when behind time for a train.

Fig. 7 represents a horse that is difficult to manage. He is not vicious, but very nervous and excitable, and when properly handled will become subdued and kind; but unless properly trained he is liable to kick with his hind feet and strike with his forward feet, and will bite if an opportunity is offered. He is what may be called an untrustworthy horse, but the law of kindness will subdue him, but when in the harness proper vigilance must always be taken.



A NERVOUS HORSE.

THE USE AND ABUSE OF THE CHECK-REIN.



UNNATURAL.



NATURAL.

An overdrawn check-rein should never be used. It is nothing but cruelty to animals and ought to be prohibited by law. There is only one purpose for which a check-rein may be used and that is to compel a horse to keep his head off the ground, and then it is not necessary to

be tightly drawn. A trotting horse can be steadied by it, but keeping a horse's head drawn up in a strained position all day is nothing but cruelty. The effect can easily be illustrated by a person having his head thrown back in this manner for hours at a time. The pain caused by a check-rein ought to create some sympathy for the poor dumb animals, who have not only to endure the pain for hours, but for days and weeks in succession.

A horse of style will show his natural condition without fastening his head in an unnatural position. Let us remember that the poor brute which cannot speak for itself is dependent entirely upon the mercy of man, and the torture which we inflict upon the suffering animal will sometime, no doubt, be meted out to us in some other way.

REMEDY



HOW TO

The dangerous inches long, and firmly; then buckle the fetlock joint rope over the pin ring on the hind rope tightly a little the horse; "Lift the same time. will give up all re



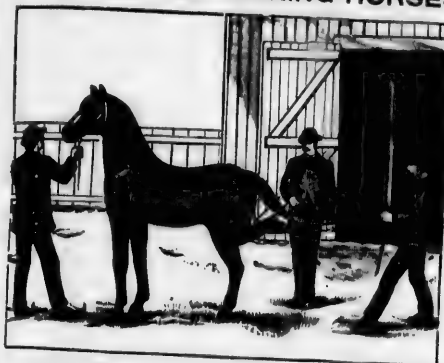
Another Method

The horse with easily managed. Illustration, and retraining a horse is the horse's fault.

STRENGTH

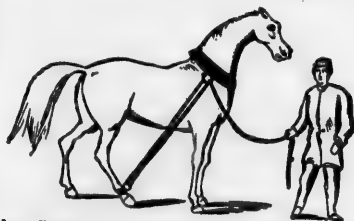
What one horse will take five hors stone pavement, se ordinary earth road,

REMEDIES FOR KICKING HORSES.



HOW TO SHOE A KICKING HORSE.

The dangerous work of shoeing a kicking horse can be made very easy. Take a small bolt or wooden pin five inches long, and double the horse's tail over it and tie it firmly; then buckle a strap around the hind feet below the fetlock joint having a ring in the strap; then tie a rope over the pin and run the end of the rope through the ring on the hind foot, and with the end in hand hold the rope tightly a little distance from the horse; then say to the horse; "Lift up your foot," and tighten the rope at the same time. After a few efforts to release himself he will give up all resistance and will soon be perfectly cured.



Another Method for Shoeing a Kicking Horse.

The horse with kicking habits while being shod can be easily managed. Place the rope as shown in the above illustration, and recollect that kindness and gentleness in training a horse is the only method that will overcome the horse's fault.

STRENGTH OF HORSES DRAWING A LOAD.

What one horse can draw on iron rails on a level road, it will take five horses to draw the same load on ordinary stone pavement, seven on good cobblestone, twenty on ordinary earth road, and forty on a sandy road.



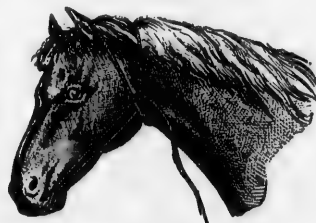
THROWING THE HORSE.

HOW TO BREAK A HORSE FROM KICKING.

In the above illustration you will find a common method for throwing a horse.

Put on a strong bridle so that the horse can be easily held, and attach the ropes, as shown in the above cut. After throwing the horse a few times, each time letting him rise at his own pleasure, at the same time speaking gently and handling him as much as may be deemed necessary, the horse will soon become exhausted, and most anything can be placed at his heels, and he will not make any effort to kick. The ropes attached will keep him from extending his legs, and by that means he will soon learn to stop making the effort.

One lesson a day, for one week, will cure the most vicious horse.



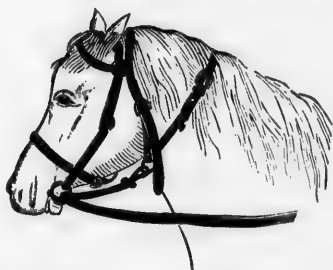
PROF. GLEASON'S EUREKA BRIDLE.

(FOR SUBDUING VICIOUS HORSES.)

This is one of the most successful bridles ever applied for the management of vicious horses, or for the purpose of doctoring the eyes or making surgical operations. It is made as follows: Take a small but strong piece of cord ten feet long and about one-eighth of an inch in diameter, with a slip noose in one end. To put on the bridle, first slip the noose around the neck, pass it through the mouth over the tongue, from the off side; then through the noose on the near side, and pull forward firmly; next over the head just behind the ears, from near side; then under upper lip, above upper jaw from off side, pass through second cord, and fasten firmly in a bow-knot. This bridle will hold any horse under any circumstances.







How to Drive Pullers and Luggers on the Bit.

1. Professor Gleason, the most noted horse tamer on the continent, if not in the world, recommends the following two methods for horses that pull and lug on the bit: Take a strap and buckle around the neck with a ring underneath the neck sewed on to the strap; now take the reins and pull through the bit rings and buckle into the ring on the strap that is around the neck. Here you have a purchase on the horse's lower jaw, that will enable you to hold the worst puller with ease.

2. The second method is as follows: Take a strap about an inch wide and eighteen inches long, with a ring one and one-half inches in diameter sewed on to each end and two smaller rings running loose on the strap. Take and place the middle of the strap directly under the horse's lower jaw and bring the ends through the mouth from opposite sides. Buckle the reins into the larger rings and the check pieces of the bridle into the smaller ones. This makes one of the most effective appliances for a puller that can be used.



THE SAFEST WAY TO TIE A HALTER.

How best to tie the halter, strap or rope, or whatever it may be, is shown in two cuts herewith. The first shows the first stage. The knot is completed by pulling on the loop until the knot is tight. Then pull on the free end of the strap B, until the loop is just large enough for B to pass through it. Pass B through and draw it through as far as possible. The horse cannot possibly get this knot open; and the harder he pulls the safer the knot. To untie the knot, draw B from the loop, and then a sharp pull on B will open the knot. A is the halter end of the strap.



HOW TO MANAGE A BALKY HORSE.

A balky horse is generally the result of a balky driver. A high-spirited horse with bad management, is liable to become balky.

REMEDY.—Lead the horse kindly about with a halter, petting him occasionally, and let him know that no harm is awaiting him. Then put on a harness and drive him, being very careful to have him observe every command, at the same time doing it very gently. Then hitch him into a light buggy and drive him awhile. By careful treatment in this way he will soon be taught to draw steadily and strongly at any load. The trouble with balky horses is that a driver will soon become provoked, and by slashing and cracking the whip, and abusing the animal, it strengthens the bad habit instead of overcoming it. There is no such thing as a balky horse, if kind and proper treatment is administered.

HOW TO KEEP A HORSE FROM PAWING IN THE STALL.

Some horses have the habit of pawing in the stall, yet a simple remedy will break up the habit in a few nights. Take a small strap and buckle around the horse's leg above the knee; now take a small piece of rawhide and tie it to the strap which is buckled around the horse's leg above the knee; on the other end tie a small block of wood, say six inches long and about three inches square, and let it hang down about seven inches, so that every time the horse paws, the block will strike its shin; it will be harmless but it will remind the horse that there is trouble, and a few nights will completely cure the nuisance.



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HOW TO TEACH HORSES TRICKS.

1 It is an excellent practice to teach a horse a few tricks. An intelligent horse will learn very easily and will enjoy training. It will create more affection and interest for the horse. Most of the tricks are very simple and easily taught.

2. *To make a Bow.*—Take a common pin and prick him in the breast very lightly. The horse will move his head up and down the same as he would in brushing a fly from his breast. Repeat this until the horse will move his head up and down at the slightest movement of the hand, and in a few lessons he will make a bow whenever spoken to.

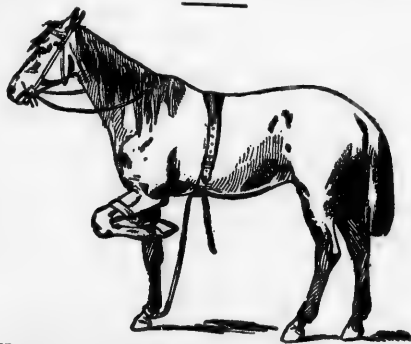
3. *To lie down.*—To make a horse lie down, use the strap as shown in "Controlling Vicious Horses," and throw the horse or colt quickly, at the same time telling him to lie down, but be sure and always speak the words emphatically *to lie down* as you throw him. Use any of the common methods for throwing a horse.

4. *How to sit up.*—First put a bridle on the horse and cause him to lie down. Then step behind him and place the right foot on his tail, keeping the reins in your hands and by standing up on the horse's tail and pulling the bridle rein tightly you can teach an intelligent horse to sit up quite readily.

5. *To shake hands.*—Place a strap around the horse's leg next to the hoof, and stand directly in front. Then say shake hands, at the same time pulling the strap and pulling his foot forward. He will soon learn to do this without the strap if the necessary patience is applied.

6. *To say no.*—Stand at the side of the horse, holding a pin in your hand, and prick him lightly in the withers and the horse will shake his head as though he were driving away a fly. You can soon train your horse to do this so nicely that he will shake his head at the word of command.

7. *Various Tricks.*—A horse may be taught to do many things, if patience and perseverance is practiced on the part of his trainer. A colt may be taken when very young and taught many interesting and amusing tricks. A horse can be taught to be driven without bridle or lines, or to jump over a pole or fence, and many other interesting and amusing things. Patience, perseverance and kindness will do most anything with an intelligent horse.



HOW TO MAKE A HORSE LIE DOWN.

Fasten the fore-foot of the horse as shown in the above illustration. Then put a surcingle around his body and fasten one end of a long strap around the other fore-leg, just above the hoof. Place the other end under the surcingle, so as to keep the strap in the right direction. Take hold of it with your right hand; stand on the left side of the horse; take the bit in your left hand, pull steadily on the strap with your right; bear against his shoulder till you cause him to move. As soon as he lifts his weight, your pulling will raise the other foot, and he will have to come on his knees. Keep the strap tight in your hand, so that he can not straighten his leg. Hold him in this position and turn his head towards you; bear against his side with your shoulder, kindly but steadily, and in about ten minutes the horse will lie down perfectly conquered. Then take off the strap; straighten out his legs; pet him for a few minutes, and then let him rise. Repeat this about twice a day for a few days, and the horse will lie down whenever the proper signs are given him. If the horse has fought hard in going down he will usually lie very still, and you can scrape the sweat off and rub him down and he will lie perfectly quiet. In this position you have the opportunity of making him perfectly familiar with you, and the more you fondle him and reconcile him to you, the better. A vicious horse is thus conquered, and an intelligent horse is made to perform a convenient and pleasant trick.



THE EX-CHAMPION TROTTING STALLION NELSON, 2:09.

KNOWN AS "THE NORTHERN KING."

DRIVEN BY HIS OWNER, C. H. NELSON, WATERVILLE, MAINE.

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ADVERTISING

BREEDING AND CARE OF HORSES.

189

HOW TO BREED AND CARE FOR HORSES.



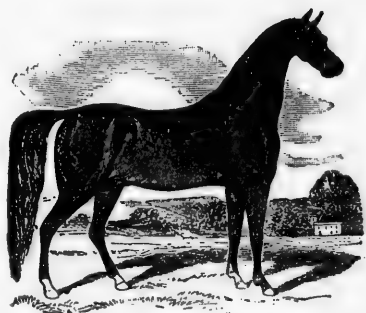
1. If a horse shows signs of blind-staggers or megrims, give it doses of epsom salts and bran mashes and exercise.
2. Castor oil rubbed on warts will often cause them to disappear.
3. Do not breed unsound mares. The colts will not pay.
4. Don't put a tight check on the horse. It is not a thing of beauty, but of cruelty.
5. If you think it is a trotter, sell it at the first good offer.
6. A fretting mare will produce a fretting colt.
7. Disposition is a great deal in breeding animals.
8. The farmer with only one team should have the colts come in the autumn.
9. Linseed meal acts as a digester. It is an excellent food to open the pores, hence a good spring food.
10. If the horse bloats and has colic it is a sure sign of indigestion. A very little magnesia and a little salt mixed with its grain, would help to correct the flatulency.
11. A horse will not eat out of a sour trough.
12. Do not think of using a common stallion because he is cheap. His get will be cheap to sell and dear to rear.
13. Carrots and bran mashes will help the mother when the little foal comes.
14. Feed the horse which is inclined to the heaves very little hay, and always wet this, and wet the grain. If the case is bad, cut the hay and mix it wet with the grain. The heavy horse should never be fed more than five or six pounds of hay a day. A half pint of raw linseed meal put into the feed, if the horse will eat it, will do it good.
15. A horse should be thoroughly groomed every day. It improves the health as well as the looks.



BREEDING HORSES.

Future Is Encouraging for Those Who Employ Right Methods.

The mare has generally been overtaxed. One colt in two years is enough for ordinary stock. It should be sufficient, as a rule, in the case of extra choice mares. The anxiety to breed a span that shall be "full brothers" may be in some instances pardoned where this rule is disregarded. Then, however, two seasons of rest could be taken to good advantage. There is a fair profit in extra good colts when a very choice mare produces eight or ten of them in a life-time. A painstaking stockman who looks after details carefully need seldom fail in obtaining regular results in alternate years. The man who has irregular breeders and is careless about details might as well continue the sickly effort yearly, as his returns will be below the average of the one who breeds only in alternate years. The 12-year-old mare that has produced regularly the past five years, or the six-year-old that has her second or third youngster this spring should surely have a rest. The vitality of the older dam needs recruiting, and the checked growth of the younger one needs recovery. Of course, use a very choice stallion. Better go 20 miles at a \$20 fee and \$5 more for expenses, than to use a poor stallion with free service. The offspring of the one will be prized and cared for, while that of the other will not be in demand. If possible, encourage some horseman in the community to buy a rare stock horse. Give him a written promise of patronage for three years, and don't disappoint him if he does his part. A good colt this year means a good horse four years hence.



ARTIFICIAL HORSE BREEDING.

A Method Rapidly Coming into General Use.

Artificial impregnation, while yet a comparatively new subject in this country, has received considerable attention from French veterinarians who pronounce it a great success. Throughout the horse-breeding countries of the world this subject is now prominent, and in our own country it is no longer an experiment. Repiquet, the well-known equine authority, says: "The method can profitably be employed for the following purposes:

1. As a remedy against certain cases of sterility.
2. In order to impregnate several mares at one time.

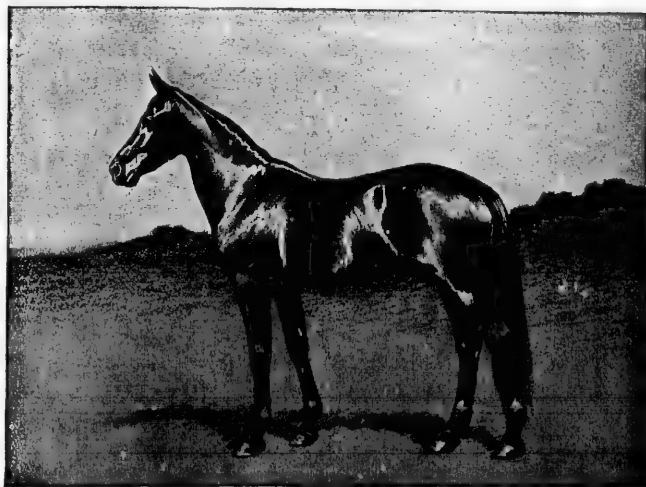
In this way the greatest possible use is made of a valuable stallion. The requisite amount of fluid is transferred from the mare covered by this stallion to the other mares. The reasons for bringing artificial impregnation into general use are:

First, service of valuable aged stallion can be utilized for twice the usual number of mares.

Second, the getting power of a stallion can be preserved unweakened for a longer period.

Third, since the number of foals got by a sure stallion can be doubled, or even trebled, the gains of breeders can be increased.

Fourth, mares which bear with difficulty can be brought to foal with almost infallible certainty. In practice, the fourth heading is of great importance. It is well-known to every breeder that there are a number of brood mares, which, after foaling a number of times, often remain unimpregnated. The reason for this frequently is that the margin of the mouth of the womb has been injured at the last birth, and in healing has given rise to a growth which prevents the necessary fluid from entering the womb. In artificial impregnation, however, the nozzle of the impregnator can be inserted into the mouth of the womb.



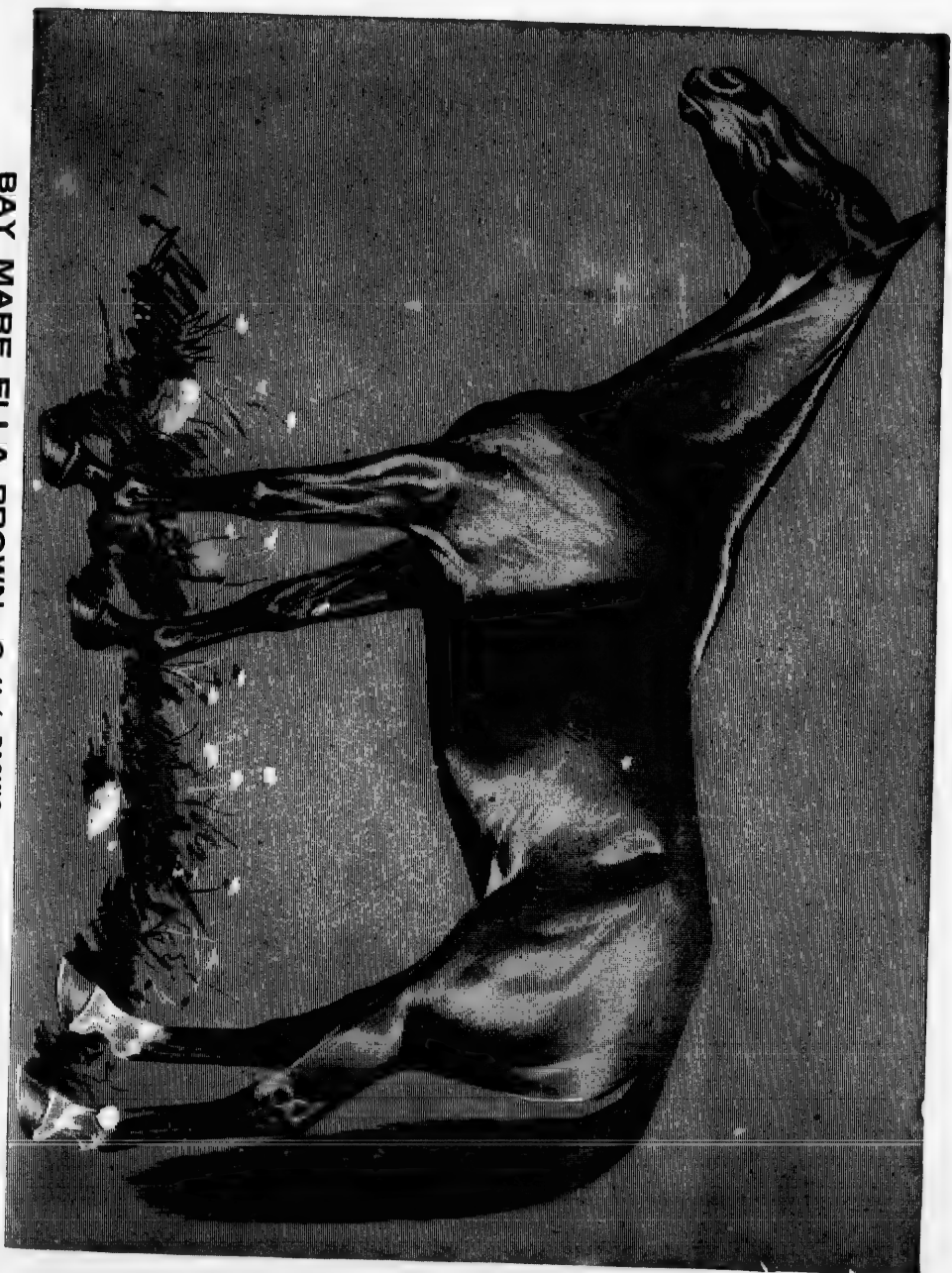
THE FATHER OF TROTTERS—

GEO. WILKES.

[THE FARMERS'

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BAY MARE ELLA BROWN. 2:11½. PACING. BY PRINCE PULASKI.



THE DISEASES OF THE HORSE.



Skeleton of the Horse as Covered by the Muscles.

1. 1. The seven cervical vertebrae, or bones of the neck. 2. The sternum, or breastbone. 3. The scapula, or shoulder-blade. 4. The humerus, or bone of the arm. 5. 5. The radius, or bone of the forearm. 6. The ulna, or elbow. 7. The cartilages of the ribs. 8. 8. 8. The costae, or ribs. 9. The carpus, or seven bones. 10. 10. The metacarpal, or shank-bones; the larger metacarpal, or cannon, or shank-bone, in front; and the small metacarpal, or splint-bone, behind. 11. The upper pastern. 12. The lower pastern. 13. The coffin-bone. 14. 14. The eighteen dorsal vertebrae, or bones of the spine. 15. The six lumbar vertebrae, or bones of the loins. 16. 16. The haunch, consisting of the ilium, the ischium, and the pubis. 17. 17. The femur, or thigh-bone. 18. 18. The stifle-joint, with the patella, or knee-cap. 19. 19. The tibia, or proper leg-bone. 20. The fibula. 21. 21. The tarsus, or hock. 22. The metatarsal bones of the hind-leg. 23. 23. The pastern of the hind-feet, including the upper and larger bone.

SIGNS FOR THE DIFFERENT DISEASES OF THE HORSE.

1. As the horse has no way of communicating to us his pains or distress, we must find out the difficulty by the symptoms.

2. The pulse in a healthy horse beats from 36 to 40 times per minute, and any variation from this number will indicate excitement, disease, or suffering of some kind.

3. In fever the pulse will run from 45 to 75 per minute. If the horse becomes very weak the pulse will flutter and vary.

4. A horse generally refuses food, when sick.

5. In colds, catarrh or glanders the eyes water and just before death become glassy.

6. The natural color of the inside of the nose is a light pink. In fever or inflammation of any of the internal organs it becomes red.



FEELING OF THE PULSE.

LISTENING TO THE BREATHING.

7. Cold ears indicate inflammation of the lungs, pleurisy or colic.

8. Heavy breathing indicates inflammation of lungs, rapid breathing, fever. Deep snoring breathing, brain disease.

9. Cold feet indicate inflammation of the lungs, bowels, bladder, etc.

10. Dry hair, standing straight out, indicates indigestion, glanders, worms, skin disease, the condition of being hidebound, and consumption.

11. A hot skin indicates local inflammation or the presence of fever.

12. If the manure is very offensive, it indicates indigestion. If the balls are shiny, it indicates glanders or worms.

13. A stoppage of the urine, or the passage of only a small quantity at a time, attended by great straining, indicates inflammation of the bladder or kidneys. A great quantity of water indicates diabetes.

14. If the horse lies down carefully and rolls, he is suffering from flatulent colic. If he drops down quickly and rolls over rapidly several times, it is spasmodic colic. In inflammation of the bowels he lies down carefully, and remains stretched out and paws and strikes.

15. If a horse stands still like a statue, it is a symptom of the lock-jaw.

16. Stiffness in the walk may indicate rheumatism, founder, corns, or some other local difficulty in the legs or joints.

17. If a horse does not sweat, or the sweat dries up suddenly, sunstroke or some serious inflammation is the cause.

18. If a horse stands straddling, or walks in that way, a lame back or some kidney or bladder disease is the cause.

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PRACTICAL RULES ON KEEPING, FEEDING AND DOCTORING HORSES.

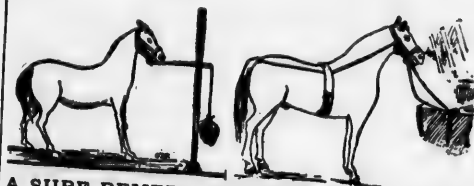
1. Young horses as well as old should be sheltered every night during the winter months.
2. Never allow horses to become poor for want of grain and hay.
3. Never grain horses highly, unless they work accordingly.
4. Always feed good hay, there is but little nourishment in poor hay.
5. Never drive or work a horse when he refuses his feed.
6. Chopped hay, moistened and salted, is the best way to feed hay.
7. Ground feed is the most profitable way to feed grain.
8. The natural pulse of the horse is from 36 to 40 per minute.
9. More diseases in horses come from short check reins than from all other causes.
10. Never feed or water horses when warm.
11. Horses should be exercised every day.
12. Never strike a horse on the head, and you will find him much more easily handled.
13. Never feed a horse damaged grain.
14. A horse should be groomed once a day.
15. Old horses should be fed on chaff instead of hay.

HOW TO CURE INTERFERING.

CAUSES. It is usually the effect of bad shoeing. When colts interfere it is because they are leg weary. Some horses naturally interfere from the natural formation of the limbs.

When the interfering comes from defective shoeing, use a light shoe and have it set by a competent blacksmith. Make the shoe higher on one side than on the other if necessary, the same will cause widening of the web of the shoe and this has a good effect.

When horses interfere, the first thing to do is to get some leather protectors for immediate protection, and remedy the difficulty as soon as possible.



A SURE REMEDY FOR HALTER PULLING.

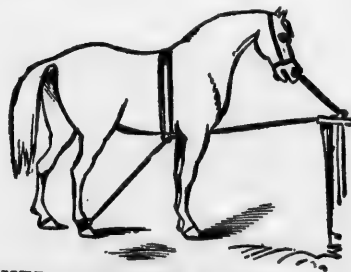
1. This is a very serious and annoying trait, and very difficult to overcome. Many ways occur, much damage is done, and many lives are lost by horses, which can not be safely tied.

2. **REMEDY.** Bore a hole through a plank, and spike it upright in front of the manger, with the hole about six feet from the floor. Take a strong rope, and tie one end into the halter and run it through the hole in the plank; then tie a stone 200 pounds in weight to the other end, giving the horse about the usual length of halter.

3. In order to have the stone swing clear, nail a piece of board or scantling just beneath the hole in the plank.

4. **ANOTHER METHOD.** Take a $\frac{3}{4}$ inch rope, one end of which pass through the lower side ring of the halter, then through the top side ring of the halter, then under the tail of the horse, then back to the halter and pass through the two rings of the halter on the other side (same as first), then use the two ends of the rope for a hitching strap.

A surcingle is necessary, in order to keep the rope in its place.



ANOTHER CURE FOR HALTER PULLING. A NEW REMEDY.

Take an ordinary rope strong enough to answer the purpose of a halter and long enough to pass through between the fore-legs and under the surcingle, tie with a slip knot or with a leather strap to one of the hind feet.

Horses are intelligent animals and a few trials will satisfy any horse that it is a failure. He will cease to pull, in fact, you cannot make him pull on the halter, as

the halter pulls both ways and soon throws the horse. A few experiences will be sufficient to break him for all time.



SOON CURED OF HALTER PULLING.

DIFFICULT OR UGLY HORSES TO BRIDLE.

Many people are less intelligent that the horses which they handle and the habit of hitting a horse on the head or about the face will soon make an ordinary horse almost unmanageable and often in consequence become very ugly to bridle.

REMEDY. Treat the horse kindly, handle him gently, pat him on the face. If the horse is specially vicious, take a rope and make a slip knot and place it on the lower jaw and tie it tightly to the manger then bridle and unbridle the horse until he becomes perfectly quiet and he will submit to being handled without any effort to throw his head back. A few trials will be sufficient to break him of this annoying habit.



HOW TO GIVE A HORSE MEDICINE.

1. The old practice of drawing the head of a horse by the halter over a beam or pole to administer medicine is as cruel as it is absurd.

2. The lower jaw of the horse while taking medicine should remain perfectly free, as shown in the above illustration.

3. **METHOD.** Take a forked stick or a common pitchfork and run it through a small strap fastened to the upper jaw of the horse. No strangling nor struggling will take place. Neither man nor beast can drink unless the lower jaw is free to move.



THE RESULT OF A HEAVY MAN RIDING A YOUNG COLT.

A Cure for Galls, Cuts, Sores, Ulcers, etc.

Cleanse the sores thoroughly by washing them with castile or tar soap. Then apply the following ointment:

- 2 ounces of calomel,
- 4 ounces of white lead,
- 4 ounces of pulverized blood root,
- 4 ounces of pulverized alum.

Or,

- 4 ounces sweet oil,
- 2 ounces calomel,
- 4 ounces castile soap.

SWEENEY.

Cause.—Sweeney is the result of straining the muscles on the outer side of the shoulder-blade. It occurs mainly in young horses. It is the result of too hard work or traveling on uneven ground and pulling a heavy load.

Symptoms.—Slight lameness, wasting away of the shoulder muscles, which become tender to the hand when pressed upon. The difference can be seen by comparing the two shoulders.

Treatment.—Rub the shoulder severely with a flannel twice a day, or apply the following mild blister remedy:

- 1 pint of ammonia,
- 3 pints of lard.

Apply twice a day and it will take the place of the friction caused by rubbing. Give the horse rest until fully recovered.

SHOULDER JOINT LAMENESS.

This is a very serious difficulty to remedy.



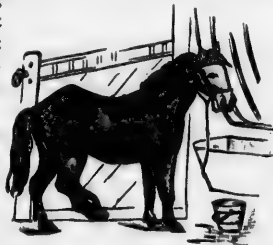
Symptoms.—The horse drags the leg with one toe on the ground and throws the leg out in attempting to move it, and it is with great difficulty that the horse can rest his foot.

Treatment.—This disease being similar to spavin in the hock-joint, should have similar treatment. If the part is very hot, reduce the temperature by a cold cloth, or a hot fomentation might work well instead of the cold; then give some treatment as for spavin. Give the horse plenty of dry bedding and make it very soft and deep.

WATER FARCY.

Cause.—It is the result of weakness in old horses, and an inflammatory condition in the young. It is generally produced by long continued labor without proper hours of rest; it sometimes causes debility, and water farcy is the result.

Symptoms.—The horse will hold the leg up as seen in annexed illustration, and will generally be lame, will not eat, but will be very thirsty.



Treatment.—Give the horse perfect rest, and feed ground feed well moistened; a quantity of wheat bran may be profitably fed; bathe the limb in cold water and rub every day, and apply bone liniment, found in other parts of the book. Give the horse some good condition powder daily for two weeks.

RING-BONE.

Cause.—It is generally caused by a natural weakness of the joint, or is the result of injuries or over-exertion.

Symptoms.—Lameness, with an inability to move the limb quickly.

Treatment.—The same as for bone spavin.

SPLINT.

Splint is a small bony enlargement on the inside of the fore-leg, just a little below the knee-joint, which generally occurs in young horses. It is the result of overwork or hard driving.

Treatment.—The same as for Bone Spavin

BONE SPAVIN.

Cause.—Spavins are caused by sprains, blows, hard work, hereditary predisposition, etc.

Symptoms.—Lameness, with a swelling of the hock-joint. Lameness generally appears before the enlargement of the joint.

Treatment.—Many modes have been adopted in treating the bone spavin. Sharp instruments have been struck with considerable force into the joint, all kinds of blistering and caustic applications have been tried. Firing is also practiced. But all of these forms of treatment are very cruel and result in little benefit. The following prescription will be found as good as any other form of treatment:

1 drachm of bin-iodide of mercury.
2 ounces of lard.

Mix well together and apply once a day for two weeks.

Another: 4 ounces of tincture of capsicum,
4 ounces of tincture of opium,
4 ounces of essence of sassafras,
4 ounces of essence of wormwood.

Mix and apply over the parts affected and rub briskly with the hand.

Dr. B. J. Kendall's Spavin Cure is also highly recommended.

**How to Cure Bone Spavin.**

Bone spavin is an inflammation and deposit or growth of bone on the inner part of the hock-joint. Lameness and soreness are the consequences of this abnormal growth.

Home Treatment. Give the horse plenty of rest, and apply hot water and vinegar, and give the horse plenty of bran and flax-seed. For later stages of the disease blistering may be helpful. A hot iron is perhaps more efficient.

A Liniment for Blood Spavin, Windgalls, Etc.
(HORSE LINIMENT.)

Alcohol, 8 ounces,
Tincture cantharides, 2 ounces,
Oil wormwood, 2 ounces,
Oil stone, 2 ounces,
Turpentine, 2 ounces,
Oil hemlock, 2 ounces,
Iodide potassium, 4 drachms.

Shake thoroughly before using, and apply once a day for one week, then grease the parts for one week and then apply again as before until cured.



HAL POINTER. 2:04%.

BLIND STAGGERS.

Causes.—Excessive heat or cold, bruises on the head, rheumatism, influenza, indigestion or a tight collar.

Symptoms.—Pulling back on the halter, plunging forward or running ahead, regardless of obstacles or obstructions in the way, staggering first one way and then another and often dropping down. Pulse often rapid, breathing hard or panting, twitching of the eyes and muscles.

Treatment.—Give a good dose of physic and reduce the diet. If in season turn out to grass for a time, if grass is not in season give an occasional physic, and feed laxative food.

Above all give the horse rest, and avoid a tight or badly fitting collar, when he is sufficiently well to be worked. Feed the animal on ground feed, made up with bran and other laxative food. A good feed of bran or flax-seed should be occasionally given all work horses early in the Spring.

HOW TO CURE WEAK TENDONS.

Use the following celebrated receipt:

Zinc Sulphate, 1 drachm,	Fl. Ext. Hamamelis,
Tr. Iodine, 1 drachm,	2 drachms,
Tr. Arnica 2 drachms,	Aqua, q. s., 1 quart.

Rub the tendons with this lotion and bandage, letting the bandage remain on for about two hours. Then the legs should have a good hand-rubbing, and in four or six hours the bandages may again be applied, and left for the same length of time. If the tendons are very bad, the bandage may be wet with the lotion before applying, and may remain on for three or four hours. Each time the bandages are removed have the legs well hand-rubbed. Reduce his work, giving simply exercise. If this treatment does not strengthen them, blistering should be resorted to with absolute rest for a few weeks.

WORMS.

Cause.—The cause is very uncertain, and many theories have been brought before the public.

Symptoms.—Symptoms of worms are a rough, harsh coat, irregular appetite, a rubbing of the tail, breath occasionally hot and fetid, and sometimes a short, dry cough, the animal appears poor in flesh and in spirits, and is sometimes attacked with convulsions, which may terminate in death if not speedily relieved.



A SURE SIGN OF WORMS.

Treatment.—Give a good, strong dose of physic. If that is not sufficient, give the following prescription for three successive nights:

3 drams of calomel,
1 dram of tartar emetic.

Mix, and divide into three powders.

POLL-EVIL.

Cause.—A tight halter, or the use of the martingal in driving; the horse striking the head against the wall or joists when too low, or against any other object; blows dealt on the head, etc.

Symptoms.—A hot and tender swelling appearing on top of the neck, which soon breaks and discharges large quantities of thick and offensive matter, causing stiffness of the neck and rendering the horse a most loathsome object.

Treatment.— $\frac{1}{2}$ ounce of common potash,
1 drachm of extract of belladonna,
 $\frac{1}{2}$ ounce of gum arabic.

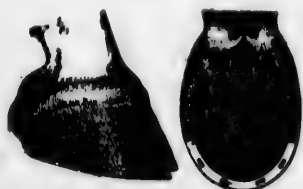
Dissolve the gum arabic in a little water; then mix and force into the ulcer with a small syringe. Cleanse the sore first with good tar soap and water. Only about one-quarter of this preparation should be used at once, and repeated in three days, if required.

BONE LINIMENT.

(MAN OR BEAST.)

Tincture of camphor, 2 ounces,
Tincture of capsicum, 2 ounces,
Tincture of myrrh, 1 ounce,
Oil spike, 1 ounce,
Spirits of turpentine, 1 ounce,
British oil, 1 ounce,
Oil origanum, 1 ounce.

Shake thoroughly before using. This is an excellent remedy for bruises, sprains, swollen joints, or lameness of any kind.



How to Cure Horses' Contracted Feet.

Shoe him with tips, as shown in the illustration above. These must be put on in a proper manner, or they will do more harm than good. The tip should be made of thin steel, and countersunk in the toe. By countersunk we mean that a space should be cut out of the horn of the toe just deep and large enough to admit a tip, so that the lower surface of the tip and the lower surface of the back part of the foot will be on an exact level.

DISTEMPER, INFLUENZA AND EPIZOOTIC.

Cause.—The influences causing these disorders are not very well known. It attacks all grades of horses. Also considerable diversity of opinion exists as to whether it is contagious or not. Some eminent authorities claim that it is, and others claim that it is not.

Symptoms.—Weakness, muscular debility, staggering walk, chills and shivering, loss of appetite, water discharged from the eyes, the pulse feeble and beating from fifty to sixty times per minute. The bowels and kidneys also suffer, the excretions being scanty.

Treatment.—Place the animals in a warm, dry stall, blanket them well and bandage their legs. If very costive, give two drachms of aloes in a warm solution of water. Then give the following prescription:

4 ounces carbonate of ammonia,
4 ounces gentian.

Make into twelve pills and give one each morning and evening. If this remedy furnishes no relief, an experienced horse doctor should be summoned.

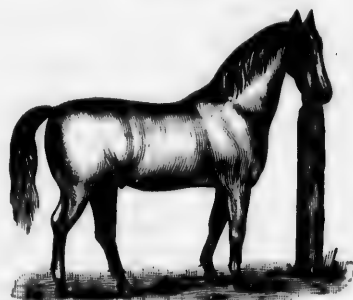
HOW TO CURE DISTEMPER.

3 ounces hops,
33 drops carbolic acid.

Put into two-thirds of a pailful of boiling water and force the animal to inhale the steam for fifteen or twenty minutes at a time three times a day. Apply a mustard poultice to the throat. Feed ground feed mixed in warm water. Give internally once a day:

1 ounce powdered gentian,
3 ounces Peruvian bark,
1 ounce powdered copperas.

Mix, and divide into nine powders.



CRIBBING.

Cause.—Acidity of the stomach, the result of sameness or unwholesomeness of food. Poor ventilation in barns and stables.

Symptoms.—The animal rests his teeth on some firm substance, and stretches his neck and body backwards, in trying to throw off the gas, which has accumulated in the stomach.

Treatment.—A cribber is easily known by the rough and ragged appearance of the outer edges of the teeth. Place a box of ashes and rock salt near by, so that the animal can eat it at pleasure. It is a good plan to sprinkle a little lime or magnesia, for a few days, over the food. Cribbing is a difficult disease to cure, but care and perseverance will overcome it. Good ventilation and change of food are absolute necessities to promote a cure.

LAMPAS.

Cause.—It is the result of young horses cutting their teeth.

Symptoms.—A swelling of the ridges behind the upper front teeth, which often prevents the animal from eating his food.

Treatment.—Take a common pocket-knife and cut the enlarged ridges back of the front upper teeth slightly, so that they will bleed freely. Be very careful not to cut them too deeply, and feed the horse soft food for a few days.

A CURE FOR CORNS.

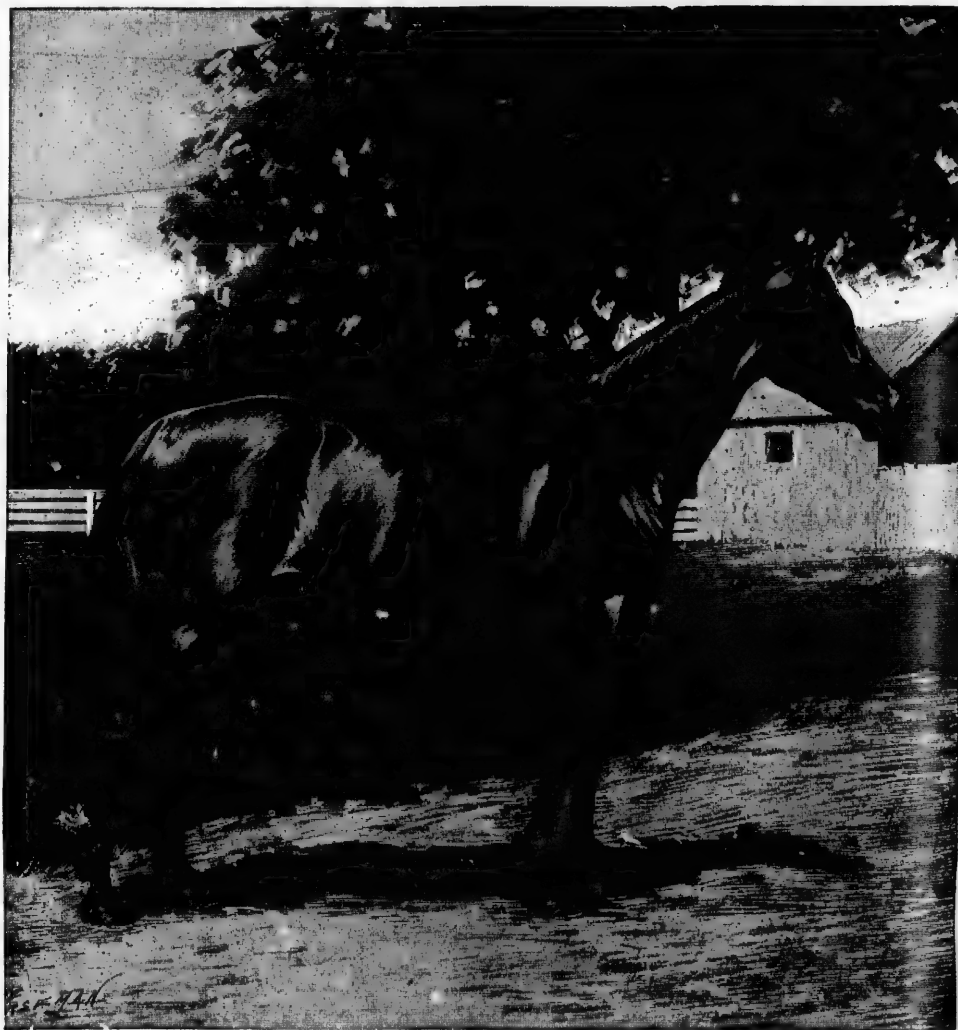
For corns, remove the shoe and pare out carefully the horn over the corn, and make the crust very thin, but leaving the ars of the frog untouched. Then apply the following prescription:

One quarter pound tar,
One quarter pound beeswax,
Three ounces glycerine,
One and a half pound lard,
Two drachms nitric acid.

TROTting MARE.

[THE FARMERS'

MANUAL.



HULDA. Bay Mare.

Foaled 1888.

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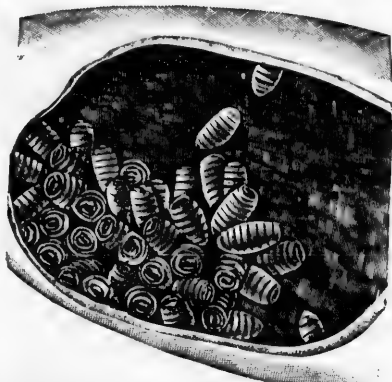
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Bots as They Appear in the Stomach and Bowels of the Horse.

BOTS.—The Correct Treatment.

Many wrong ideas prevail in reference to bots. All horses that are exposed to the bot-fly, must have bots more or less in their stomachs. Dr. Adams made the following experiment: Bots, when taken from the stomach alive, will live

- In strong rum, 25 hours,
- In strong decoction of tobacco, 11 hours,
- In strong oil of vitriol, 2 hours and 18 minutes,
- In essential oil of mint, 2 hours and 5 minutes.

They will live without apparent injury in spirits of camphor 10 hours, fish oil 49 hours, tincture aloes 10 hours, in brine 10 hours.

Common-sense consequently teaches us that there is no medical remedy that will effect a cure for the bots, and there is no practicing veterinary surgeon who can tell the difference between bots and colic. Do not be misled. For colic or the bots give the following prescription:

- 6 ounces of whiskey,
- 7 ounces of new milk.

Give at one time. If not relieved repeat the dose in 30 minutes.

If the above remedy cures the horse, the disease is colic and not bots.

For bots give slippery elm tea, or potato juice. This will feed and quiet them, but they cannot be destroyed.

FOUNDER.

Cause.—Founder is produced by hard driving on a full stomach, and drinking large quantities of cold water when heated, or by eating large quantities of green feed, or over-eating grain or large quantities of ground feed.

Symptoms.—Stiffness and a disinclination to move. The limbs appear stiffened and benumbed. A restlessness

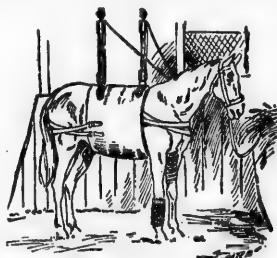
shown by the continual looking around, tenderness of the bowels on pressure by the hand.

Treatment.—Give one quart of linseed oil and bathe the legs with hot water. Bleeding is also recommended. A few hours after giving the linseed oil give the following prescription once a day, until cured:

- Take, Spirits of turpentine, 1 ounce,
- Oil of sassafras, 1 ounce,
- Alum, powdered, 1 ounce,
- Warm water, 1 pint.

Mix and give as a drench.

Large doses of aloes may be given, instead of the above prescription, with very beneficial results.



How to Set and Cure the Broken Leg of a Horse.

It was thought until recently that when a horse's leg was broken that the only alternative would be to shoot the unfortunate animal. If a horse's leg is broken below the knee or below the hock joint, the leg can be set and the horse's life saved.

The horse must first be swung up as in the above illustration. If the front leg is broken then allow his weight to rest on his hind feet, but if his hind leg is broken allow him to rest his weight on the front feet. The leg should be set in splints or plaster of paris, and the leg will knit together in about six weeks.

In this way valuable horses can without difficulty be saved for years of useful labor.

THUMPS.

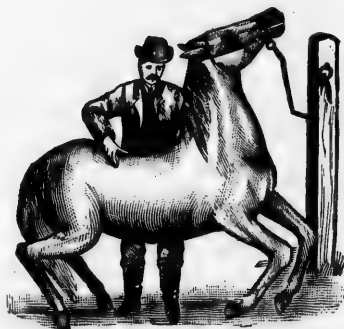
Cause.—The thumps are generally the result of overwork or hard driving in hot weather.

Symptoms.—Violent beating or throbbing in the flanks. It is properly a palpitation of the heart.

Treatment.—Give the horse plenty of salt and rest. If this is not sufficient, give the following prescription three or four times a day:

- Spirits of camphor, 1 ounce,
- Muriate of ammonia, 10 grains,
- Sweet spirits of nitre 1 ounce,
- Water, 1 pint.

Mix, and give as a drench.



INFLAMMATION OF THE KIDNEYS.

Cause.—Strain of the kidneys will cause inflammation in them. A lick over the kidneys, the foolish use of diuretic medicines, too free use of turpentine or resin will cause it. Blisters may sometimes cause it. A blister all around the leg is said to cause it, or strangury.

Symptoms.—A straddling in the hind legs, a constant straining and effort to make water, the water being passed in small quantity and sometimes bloody. Pressing over the kidneys will show that it produces pain. The pulse and breathing are increased.

Treatment.—Give a dose of linseed oil or aloes, after which give a small quantity of tobacco. Keep a flannel cloth, saturated with hot water and vinegar, over the kidneys for six hours. Then put on a mustard poultice. Give flaxseed tea freely until relieved.

HEAVES.

Cause.—The cause has never been satisfactorily ascertained. It is attributed by some to the derangement of the digestive organs, by others to rupture of the cells of the lungs.

Symptoms.—Peculiar double motion of the flanks, breathing quicker than natural, a short, peculiar cough, and a windy condition of the bowels.

Treatment.—The digestive organs should be kept in as healthy condition as possible. Feed wild prairie hay, well shaken up. The food should be moistened and the animal fed regularly. One teaspoonful of lobelia once a day, given in the food for a week at a time, will often greatly relieve the animal.

Another good remedy for the heaves is the following receipt:

1 oz. saltpeter,
½ oz. powdered ipecac,
4 pints rain water.

Mix and give a pint once or twice a day.

HOW TO STOP THE HEAVES QUICKLY.

2 ounces spanish brown, 2 ounces lobelia,
3 ounces resin, 8 ounces jamaica ginger.
2 ounces gentian,

Give a tablespoonful three times a day, and while giving this medicine the horse will show no indication of the heaves; but it is only a temporary relief and will not cure.

INFLAMMATION OF THE LUNGS.

Cause.—Driving horses until they are well warmed up and allowing them to stand in a cold atmosphere without being blanketed. Over-exertion, or exposure to cold and storms.

Symptoms.—A horse stands with drooping head, legs apart, and wayward breathing. Shivering and irregular heat of the skin are common symptoms. A horse occasionally coughs, and the pulse is increased to seventy or eighty beats per minute.

Treatment.—Improper remedies will do more injury than good, and it is best, as a rule, to call a veterinary surgeon at once. Delay is very dangerous. From sixty to eighty drops of tincture aconite, given in water every two hours, at the same time giving one ounce of nitre in a pint of water, are excellent remedies to make use of, until a veterinary surgeon can be summoned.



HOW TO CURE THE COLIC IN HORSES.

Symptoms.—Sleepy look; at times very fidgety; pawing with one foot; caution in lying down; breathing labored; walking gives relief; legs and ears natural temperature.

A Home Remedy.

Two common tablespoonfuls (not heaping) of saleratus, mixed with 1 ½ pints of sweet milk. Give in one dose.

Another Remedy.

Take 1 pint of whiskey and add 3 tablespoonfuls of common gunpowder. Give in one dose. If not better in an hour, repeat the dose, and give a pint of raw linseed oil.

The following is an excellent remedy for any form of colic, and should always be kept on hand. It should be given as soon as possible. If the dose does not relieve, follow it in half an hour with another:

Chloroform, 1 ounce, Sulphuric ether, 1 ounce,
Laudanum, 1 ounce, Linseed oil, 8 ounces.

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GUY WILKES. 2:15X.

LOOK-JAW.

This is a very serious disease and cannot receive attention too promptly.

Cause.—Exposure to cold, standing in the rain, hard driving, then suddenly cooling, fatigue and hunger, injuries, cuts, bruises, driving of nails in sensitive parts of the foot, in shoeing, etc.

Symptoms.—Stiffness, straggling gait, stiffness of the jaws, swollen tongue, flowing of saliva from the mouth, and a flickering motion of the eyes.

Treatment.—If possible, give by the mouth one ounce of aloes and 2 drachms of calomel. Give injections of belladonna, half an ounce dissolved in a pail of water. Give upon the tongue every hour, twenty drops of the following mixture:

1 ounce of dilute hydrocyanic acid.
1 ounce of the tincture of aconite.

Mix, and shake well together.

WIND-GALLS.

Wind-galls may be cured by tying on tightly a pad and bandage and leaving it on about two hours a day, morning and evening. They will usually disappear in the course of a week or two. Sometimes, however, it may take four or five weeks.

Another Method.

Draw the liquid out through the nozzle of a hypodermic syringe and apply a wet bandage. Wind-galls may be also removed by applying a strong solution of oak-bark and alum.

HIDEBOUND.

Cause.—Hard work, neglect, and exposure.

Symptoms.—The skin sticks very close to the ribs and appears immovable.

Treatment.—To remove the cause is the first step necessary to be taken. The following receipt will cure most cases:

2 ounces of anise seeds, in powder,
2 ounces of ginger, in powder,
1 ounce of grains of paradise,
2 ounces of mustard,
2 ounces of turmeric.

All to be powdered, and to be given in warm water, fasting, and to fast two hours after. Bleeding, tipping and physic are also good remedies.

A CURE FOR THE CURB.

Apply the following receipt morning and evening:

Pulv. cantharides, 1 ounce,
Citric ointment, 4 ounces,
Olive oil, 1 ounce.

HOW TO CURE A FISTULA.

This disease is the same as Poll Evil, but instead of being on top of the head it is located along the raised part of the back and over the shoulders, known as withers. It is due to some violence or bruise.

Treatment.—Open it freely; when the bleeding has subsided, syringe it out with a ten per cent. solution of corrosive sublimate. Get a druggist to prepare the solution, and use it carefully, it being poisonous. After syringing it out rub well in over a large surface around the sore one ounce of cerate of cantharides. Clip off the hair and clean the skin well before applying it. After 24 hours grease it. After four days wash it and syringe it out again as before, and again after another week. If this does not cure it, repeat the whole course as soon as the scabs of the blister come off.

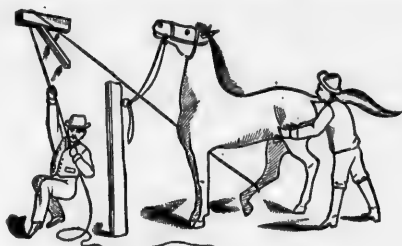
FOR SORE MOUTH.

Borax, 2 drachms, Vinegar, 1 pint,
Alum, ½ ounce, Soft water, 1 pint.

Shake well and wash the mouth every evening and morning. Feed little hay and feed a pint of flax-seed once a day until well.

FOR HARNESS AND SADDLE GALLS.

Wash the sore parts thoroughly with castile soap and warm water every evening. Then apply a solution of common salt and sugar of lead (equal parts) after each washing.



STIFLE-JOINT LAMENESS.

Cause.—This happens mostly to young horses, and it is a dislocation of the stifle, or patella, a little bone which slips off the main bone when the horse steps.

Symptoms.—The extending of one of the hind legs backward the extension of the head, and the swelling of the stifle-joint.

Treatment.—The only thing to be done is to restore the bone to its proper place and apply hot vinegar to shrink the cords. In older horses the cords have become more stiffened, and when the patella is displaced, it takes considerable force to bring it back into its proper location. The above illustration will explain itself. Keep the horse quiet and feed well for two weeks.

For lameness, bruises, galls, etc., apply the following liniment. No better preparation is manufactured.

Alcohol, 95 per cent, 8 ounces,
Spirits turpentine, 8 ounces,
Oil of sassafras, 1 ounce,
Oil of pennyroyal, 1 ounce,
Oil of origanum, 1 ounce,
Tinct. of arnica, 1 ounce,
Tinct. of cantharides, 1 ounce,
Tinct. of camphor, 1 ounce,
Aqua ammonia, 1 ounce,
British oil, 1 ounce,

Mix thoroughly, and use as a liniment.

DISEASE OF THE PENIS.

Small warty growths may be clipped off with scissors.

FOR ULCERS OF THE PENIS.

Wash with tar soap and warm water once a day, and apply the following wash:

50 drops carbolic acid,
1 pint water,
1 drachm chloralhydrate.

Too Free Discharge of Urine; or Inability to Hold Water.

Give twice a day for two weeks the following prescription:

One-fourth ounce of cantharides, and keep the bowels open with grain or green feed.

Scratches, Cracked Heels, Mud Fever, Etc.

Wash the parts off thoroughly with warm water, and apply the following remedy:

1 ounce solution of diacetate of lead,
8 ounces glycerine.



A GOOD CURE FOR SCRATCHES.

First remove the cause, then take gun powder and lard of equal parts, melt and mix thoroughly, and apply three times a day.

Or apply glycerine and water, in equal parts, and put into the mixture a few drops of carbolic acid.

Or take glycerine and aloes, equal parts. Bandage in all cases.

An application of sugar of lead is also a good remedy. It takes time to cure the disease; and if the horse is feeble, ground feed well moistened should be fed.

AN EASY WAY TO CURE GLANDERS.

1 ounce of rock alum,
1 ounce of white vitriol.

Powder these well and put them into a pint of warm vinegar, and syringe about one ounce up the nostrils every day.

A CURE FOR SWOLLEN LEGS.

Bandage the legs in cloths wrung from hot water and give one pint of linseed oil and one pint of sassafras tea.

Keep the leg bandaged for a few days, wringing out and applying cloths in hot water, whenever convenient.

Make a strong tea of equal parts of mullein leaves, mayapple roots, and poke roots, and add two handfuls of salt. Apply as hot as the horse can bear.

HOW TO MAKE OINTMENT FOR HORSES.

CRACKED HOOF OINTMENT.—Tar and tallow, equal parts melted together.

FOR GREASE.—Mix four ounces lard with one ounce white lead.

HEEL OINTMENT.—To the Cracked Hoof Ointment add 3 ounces of verdigris to each pound.

FOR MANGE.—Soft soap, oil of turpentine lard, and flower of sulphur, 4 ounces each, mix well.

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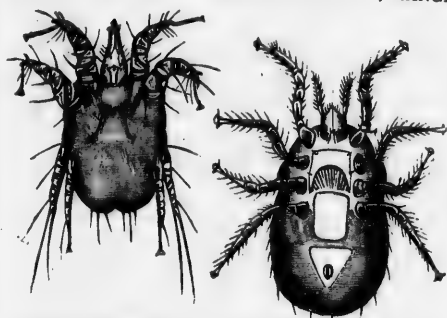
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MANUAL.] HOW TO DESTROY MITES; ITCH; MANGE; CORNS; NASAL GLEET; BLEEDING, Etc.

203



HOW TO DESTROY MITES THAT INFEST THE HORSE.

1. These little mites as shown in the above illustration are greatly magnified so as to show their form. They are animal parasites that burrow in the skin, and under favorable conditions they can be transmitted to the mule or even to man, and may live indefinitely on the human skin. It can only be detected by a strong magnifying glass, moving among the scurf or scab of the infected skin.

The mite burrows little galleries in and beneath the scurf of the skin, where it hides and lays its eggs and where its young are hatched. The mite is wonderfully prolific, a new generation of fifteen individuals being possible every fifteen days, so that in three months the offspring of a single pair may produce a generation of 1,500,000 mites.

2. Chicken lice often infest the skin of the horse.

3. There is a parasite that attacks the heel and lower parts of the legs, especially the hind ones, and may be present for years without extending upon the body. This parasite lives on the surface, on the hairs, and among the scabs. It gives rise to great itching, stamping, rubbing of one leg with the other, and the formation of wounds, ulcerous sores and scabs. The intense itching will always suggest this parasite.

General Treatment.—Take two ounces of tobacco and two ounces of water; boil thoroughly and then apply to the skin after removing the scabs with a soft cloth or brush; repeat this every fifteen days. Or take 1 drachm carbolic acid, 2½ ounces of water. Mix and apply until a cure is effected.

How to Stop the Bleeding of a Horse or Other Animals from a Wound, Snag, Cut, or Barbed Wire Injury.

Make an application of dry manure, and it will stop the bleeding of a wound at once.

A CURE FOR THE ITCH, MANGE, Etc.

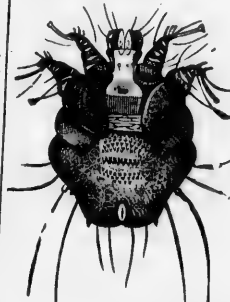
Cause.—It is a contagious disease caused by insects burrowing in the skin.

Symptoms.—Dirty and rusty color of the hair, skin covered with scales and dandruff, constant rubbing, and pimples about the head and neck and under the mane. The hair falls out and the skin is dry and hard.

Treatment.—Wash the horse thoroughly all over with castile soap. Then apply the following mixture:

4 ounces of sulphur,
4 ounces of white copperas,
4 ounces of white hellebore root, in powder.

Mix together in two quarts of buttermilk, and rub the affected parts freely.



THE MANGE AND ITCH MITE GREATLY MAGNIFIED.



LOTION FOR MANGE.

Boil two ounces tobacco in one quart water; strain; add sulphur and soft soap, each two ounces.

HOW TO CURE CORNS IN HORSES.

These are caused by that portion of the foot being bruised which is the sensitive part of the foot. Have the foot pared away so as to admit of the shoe being fitted to the foot so as to set easy. Do not draw too close with nails. Apply a caustic to the corn, and repeat as often as necessary, keeping the foot clean and soft by hoof ointments, and all will go well shortly. Caustic, muriatic acid, chloride of zinc — either applied, will have a tendency to effect a cure.

Nasal Gleet, or Discharge from the Eye and Nose.

The cause of this is neglect in distemper, or over-heat or cold; this is a white discharge from the nose, and is not contagious—and can be cured.

Cure.—Stop working him—give of alum ½ pound, resin ½ pound, blue vitriol ½ pound; grind and mix well with ½ pound of ginger; give one large spoonful every night and morning—bleed one gallon. Keep him out of the wet, and do not work him.



THE BAY GELDING BLUE SIGN. 2:08 1/4. PACING. BY ENSIGN.

MANUAL



Receipt

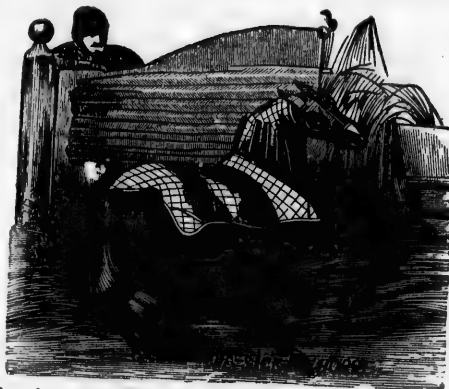
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Receipts for Horses, Cattle, Sheep, Hogs, &c.

Hoof Ointment.

Balsam Fir, Oil of Hemlock, White Pine Pitch, Honey, Venice Turpentine, Beeswax, each $1\frac{3}{4}$ ounces, Lard $\frac{1}{2}$ pound, fine ground Verdigris $\frac{3}{4}$ oz. Simmer all together over a slow fire. When melted take off the fire and stir until cool. Apply between hair and hoof.

Scouring in Horses or Cattle.

Tormentil Root, powdered. Dose: For a horse or cow 1 to $1\frac{1}{2}$ ounces. It may be stirred into a pint of milk and given, or it may be steeped in a quart of milk and then given three to five times daily until cured.

Gravel in Horses.

Take $\frac{1}{4}$ pound of the Queen of the Meadow and put into a quart of boiling water to steep for 15 minutes. When cool, give quarter of the above quantity night and morning until removed.

To Remove Warts on Horses or Cattle.

Saturate the warts with Spirits of Turpentine two or three times a day for a week. This remedy was never known to fail.

Choked Cattle.

No 1. Pour down the throat $\frac{1}{2}$ pint warm lard, or $\frac{1}{2}$ pint soft soap reduced with warm water.

No. 2. Take fine cut chewing tobacco enough to make a ball the size of a hen's egg, dampen it with molasses so as it adheres closely, elevate the animal's head, pull out the tongue and crowd the ball as far down the throat as possible. In fifteen minutes it will cause sickness or vomiting, relaxing the muscles, so that whatever may be choking it will be thrown up.

Garget in Bag.

One quart scone root chopped fine, and one tablespoonful of sulphur mixed, given once a day in bran for a week.

Oaked Bag.

Caked bag may be removed by simmering the bark of bitter-sweet in lard until it becomes very yellow; when cool, apply it to the swollen part three times a day, rubbing oil in with the hand; also give one pint of horse radish chopped fine, with potatoes or meal once a day for three days.

To Cure Staggers, or Water in Head.

Take $\frac{1}{2}$ gill of melted lard, $\frac{1}{2}$ gill of strong sage tea. Mix and pour down the throat. Will effect a cure in 30 minutes.

Condition Powder for a Stallion.

White Resin and Madder, each 4 oz.; Black Antimony, Gentian Root, Anise Seed, 2 oz., Spanish Flies, 1 oz., all made very fine and intimately mixed. Dose: A tablespoonful in the morning feed. This is from Robert Hudson, Winfield, Kansas. No one need fear to use it. And without the Spanish Flies, it is a good alternative and tonic for any other horse.

Distemper in Colts.

Distemper in colts has about three weeks to run its course. All the medicine required is a light dose of Epsom salts, say 4 to 6 ounces, and good nursing. Give warm bran mash, linseed or oatmeal gruel, keep the animal warm and rub the legs with cloths, dipped in hot water; a tablespoonful of mustard in the water would be beneficial if the legs seem to be weak, numb or cold.

To Stop Heaves Quickly.

Three eggs, 2 drachms lobelia, 1 pint vinegar, 2 drachms alum; mix together; divide in three doses and give one every morning. This is not permanent, but good to trade on.

Jaundice or Yellow Water.

Symptoms.—Hair of main and tail loose, eyes yellow, bars of mouth swollen, right fore-leg lame.

Cure.—Give physic, then cleansing powders; don't bleed, and you will save your horse.

Recipe for Liniment.

Two ounces each of oil origanum, laudanum, oil sassafras, tincture camphor, oil cedar, spirits ammonia, spirits turpentine, sweet oil, one gallon alcohol. Good for swellings, burns, etc.



For Strains and Swellings.

Strong vinegar saturated with common salt, used warm, is good for strains and reducing swellings. One ounce of white vitriol, one ounce of green copperas, two teaspoonfuls of gunpowder, all pulverized together, and dissolved in one quart of soft water, and used cold, rubbing in thoroughly, is one of the best applications known for reducing swellings.

Recipe for Swellings.

Double handful each of mullein leaves, mayapple roots, poke roots, one gallon water; boil and add double handful salt; apply as warm as the hand can bear it. Good and cheap.



HOW TO KEEP A HORSE OR COLT FROM GETTING CAST.

1. Many horses have the trouble of getting cast, and often are crippled and ruined in a single night. The above illustration is an excellent remedy to train horses or colts to lie quietly and comfortably in their stall.

2. Take a strap and fasten it to a joist or hook overhead, so the animal cannot get its head quite down to the floor, and hitch the horse to the manger with the usual length of halter.

3. Colts which are worked very hard, or possess a nervous temperament, are more frequently liable to be cast in their stalls.

4. Colts should never be worked too hard. Give them a chance to grow and mature, if you want a good, valuable and saleable horse.

FOR FITS.

Fits are caused by overflow of blood from the heart to the brain, which causes concussion. Bleed through the nose, then give tablespoonful cleansing powders twice a day on bran mash, then the restorative liquid. Keep the bowels open.



String Halt.

It is easily known by the horse lifting up the hind leg when raised from the ground. It may be slightly manifested, or in extreme cases the fetlock may even strike the belly.

Cause. Strains, bad usage, and poor feeding.

Remedy. The longer it remains uncured, the more obstinate it will become. Give nourishing food, and rub the limb thoroughly each day. The following liniment will prove excellent:

- 1 ounce Oil of Origanum,
- 1 ounce Laudanum,
- 1 ounce Sassafras,
- 1 ounce Tincture of Camphor,
- 1 ounce Oil Cedar,
- 1 ounce Spirits of Ammonia,
- 1 ounce Sweet Oil.

Mix in two quarts of alcohol. This receipt is also excellent for swellings, bruises or burns.

To Fatten Horses, or Strengthen Weak and Reduced Animals,

Use the following excellent receipt:

"PERSIAN CONDITION POWDER."

THE BEST IN USE.

- Powd. black antimony, 4 ounces,
- Powd. East India ginger, 8 ounces,
- Powd. nitrate of potassium, 8 ounces,
- Sulphur, 8 ounces,
- Powd. rosin, 4 ounces,
- Bicarbonate of soda, 8 ounces,
- Glauber's salt, 12 ounces.

Mix them thoroughly.

Dose.—A tablespoonful to a pound of feed.

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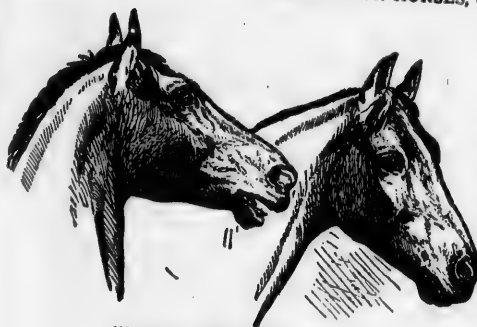
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HEADS OF TROTTING HORSES.

Disease of the Kidneys.

Caused by feeding dirty or musty grain, hard drawing, overloading him, or by giving too much turpentine.

Cure.—Blister over the kidneys, and give the following pills every day: Take resin 1 ounce, juniper berries, ground fine, 1 ounce, flour 2 ounces; make all into a stiff paste, divide into 7 pills, give one every night, then use the cleansing powder every day; if the horse has trouble to get up when he lies down, swing him up for two weeks—give no food but that which is clean; this is half of the cure. Do not work nor ride him.

Groggy Knees.

The cause of this is sprains or over-driving, or by having corks and no toes on the shoes. This can be cured in the first stages, but if of long standing there is no cure.

Cure.—Have shoes made thick at the toe and thin at the heels; take linseed oil $\frac{1}{2}$ pint, alcohol 4 ounces, camphor spirits 1 ounce, laudanum 2 ounces; shake and apply to the back part of the legs, rub it in well every four days; still increase the thickness of the shoes at the toe.

Liquid Blisterer.

Take alcohol 1 pint, turpentine $\frac{1}{2}$ pint, aqua ammonia 4 ounces, oil of origanum 1 ounce; apply this as spoken of every three hours until it blisters—do not repeat oftener than once in eight days, or seven at least, or it will kill the hair.

How to Cure Corns.

Take off the shoe, cut out the corns and drop in a few drops of muriatic acid, then make the shoes so they will not bear on the part affected. Apply the "Hoof Liquid" to the hoof to remove the fever. This is a sure treatment.

DIABETES — Too Free Discharge of Urine, or Cannot Hold His Water.

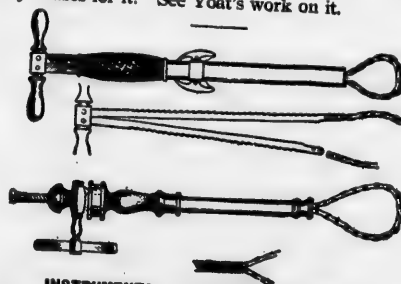
Cure.—Give $\frac{1}{2}$ ounce of the tincture of cantharides every morning for ten or twelve days, and if not entirely well, repeat again, and bleed one gallon from the neck—give clean food, the cause is rotten or musty grain, or too free use of turpentine. Keep him open with mashies and green feed.

Physic Ball.

Aloes $\frac{1}{2}$ ounce, gamboge 3 drachms, oil of juniper 20 drops; make into a pill with a few drops of molasses, wrap it up in thin paper and grease it, draw out the tongue with the left hand, place the gag in the mouth and run the pill back with the right hand until it drops off, let the head down and give a sup of water. First, prepare the horse by giving one or two mashies.

Water Farcy.

This is a swelling along under the chest, and forward to the breast. Bleed, rowel in the breast, and all along the swelling, six inches apart, apply the "General Liniment" to the swelling, move the rowels every day, let them stay in until the swelling goes down. Give soft food, mashies, with the "Physic" in it—this is dropsy. Many causes for it. See Yoat's work on it.



INSTRUMENTS FOR CASTRATING COLTS.

This is an instrument called *ecraseur* and is now extensively used for castrating colts, and for the removal of tumors. The object of using this instrument is, that no bleeding follows its use.

Castration.

This is an operation for the purpose of depriving the horse-colt of his entirety by the removal of the testicles. It is a simple and safe operation. Any person having once seen it done, can do it also, if he have the resolution to do so. It has been recently demonstrated that castration can be performed on aged horses with as much safety as on those in good. This is attributed to the mode or manner of operation, namely by an instrument called the *Ecraseur*.

Sore Mouth or Tongue—Called Oanker . or Thrush.

Symptoms.—The mouth runs water, the horse coods or throws the hay out of his mouth. The cause of this is often from frosty bits being put into the mouth, or by eating poisonous weeds.

Cure.—Take of borax, 3 drachms, sugar of lead, 2 drachms, alum, $\frac{1}{2}$ ounce, vinegar, 1 pint, sage tea, 1 pint, shake all well together, and wash the mouth out every morning—give no hay for twelve days.

Contraction of Tendons of the Neck.

Symptoms.—Often the neck is drawn around to one side, again, the horse cannot get his head to the ground. Cause of this is spraining the horse, and rheumatism produces the contraction.

Cure.—If it is taken in the first stages, bleed from the neck 2 gallons, then foment or bathe the part well with hot water, rub it dry and take the "General Liniment" and apply it every day two or three times; this will cure it. If it is of long standing, then blister all along the part affected with "Liquid Blister." Do this every 3 weeks until he is well and rub with the "White Ointment."

Sore Back.

If the saddle bruises his back and makes it swell, a greasy dish-cloth laid on hot, and a cloth laid over it, bound on fifteen minutes (with a surcingle), and repeated once or twice, will sink it flat. If it is slight, wash it with a little salt and water only. Alter the saddle, that it may not press on the tender part, for a second bruise will be worse than the first.

Eye Wash for Horses.

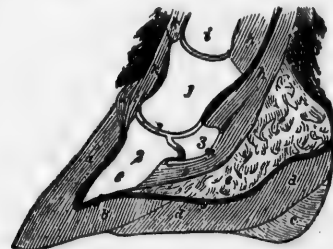
Take of sugar of lead, 2 drachms, white vitriol, 1 drachm, laudanum, 1 drachm; add to this 1 quart of soft water; let it stand six or eight hours, and it is fit for use. Wash the eyes out well every morning, after first washing the eyes well with cold water; follow this up for 3 or 4 weeks, and then, if the eyes are not much better, bleed and give a mild physic. The horse should be kept on low diet, and not over-heated or worked too hard; scalded bran and oats are good.

How to Make the Drops to Make Old Horses Young, or to Get Up and Howl.

Take the tincture of asafetida 1 ounce, tincture of cantharides 1 ounce, oil of anise 1 ounce, oil of cloves 1 ounce, oil of cinnamon 1 ounce, antimony 2 ounces, fenugreek 1 ounce, fourth proof brandy $\frac{1}{2}$ gallon; let it stand ten or twelve days, and give ten drops in a pail of water—or one gallon.

Hoof Bound or Tender Feet.

Cause of this is, fever in the feet, founder, or gravel. The symptoms are, hot feet and a drawing-in one inch from the top of the feet at the heels. Never have the feet spread at the heels, nor rasped above the nail holes, for it will do the foot an injury. Follow the directions given here. Use either the hoof ointment or the hoof liquid; apply it according to the printed directions. For hoof bound or tender feet apply it all around the top of the hoof down one inch every third day; if for split hoof, apply it every day. First, have a stiff shoe on the foot, and cleanse the cut or crack. Never cut or burn for it.



Hoof Evil or Thrush, Grease Heels.

Cause of this disease is over-feeding, and want of exercise, or standing in a filthy stable. Symptoms, well known: A discharge of offensive matter from the frog of the foot and around the top of the foot; often the frog of the foot will come out, then you must put on a stiff shoe to keep the foot from contracting.

Cure.—Give physic, and poultice the foot with boiled turnips, add some fine ground charcoal—this must be done every night, for two or three nights, then wash the foot clean with castile soap and soft water, and apply the blue ointment every day—keep the horse on a clean floor and he will be well in twelve days.

Disease of the Liver, or Yellow Water.

Symptoms.—The eyes run and turn yellow, the base of the mouth the same, the hair and main gets loose, and he often is lame in the right shoulder, and very costive.

Cure.—Give the following ball every morning, until it operates upon the bowels: Take aloes 7 drachms, calomel 1 drachm, ginger 4 drachms, and molasses enough to make it into a ball, wrap it in paper and give it; give scalded bran and oats, grass if it can be got; when his bowels have moved, stop the physic, and give 1 ounce of camphor in $\frac{1}{2}$ pint of water, every morning for twelve days, rowel in the breast, and give a few doses of cleansing powder. Turn him out.

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Diseases of the Udder and Teats.

This is comparatively rare
 in the mare, though in some
 cases the udder becomes
 painfully engorged before
 foaling, and a doughy swell-
 ing, pitting on pressure, ex-
 tends forward on the lower
 surface of the abdomen.

Treatment.—The treat-
 ment is simple so long as
 there is only congestion.
 Active rubbing with lard or
 oil, or better, camphorated oil, and the frequent drawing off
 of the milk, by the foal, or with the hand, usually brings
 about a rapid improvement. When active inflammation
 is present, fomentation with warm water may be kept up
 for an hour and followed by the application of the cam-
 phorated oil, to which has been added some carbonate of
 soda, and extract of belladonna. A dose of laxative
 medicine, (4 drachms Barbadoes aloes), will be of service
 in reducing fever, and $\frac{1}{2}$ ounce saltpeter daily will serve
 a similar end.

**Tumors of the Udder.**

As the result of inflammation of the udder it may be-
 come the seat of an indurated diseased growth, which may
 go on growing and seriously interfere with the move-
 ment of the hind limbs. If such swellings will not give
 way in their early stages to treatment by iodine, the only
 resort is to cut them out with a knife. As the gland is
 often implicated and has to be removed, such mares can
 not in the future suckle their colts, and therefore should
 not be bred.

Sore Teats, Scabs, Cracks, Warts.

By the act of sucking, especially in cold weather, the
 teats are subject to abrasions, cracks, and scabs, and as
 the result of such irritation, or independently, warts
 sometimes grow and prove troublesome. The warts
 should be clipped off with sharp scissors and their roots
 burned with a solid pencil of lunar caustic. This is best
 done before foaling to secure healing before suckling be-
 gins. For sore teats use an ointment of vaseline 1 ounce,
 balsam of tolu 5 grains, and sulphate of zinc 5 grains.

To Restore the Appetite.

Use of pulverized caraway seeds and bruised raisins,
 4 ounces each; of ginger and palm oil, 2 ounces each.
 Always use twice as much of the first as of the last, in
 whatever quantity you wish to make it. Give a small
 ball once a day until the appetite is restored; use washes
 at the same time.

Wolf-Teeth.

These are two small teeth which make their appear-
 ance immediately in front of the upper molar teeth dur-
 ing the period from the colt to the horsehood. It is sup-
 posed by some horsemen that they injure the eye of the
 horse. No author that I have ever read describes or de-
 fines clearly that they do really injure the eye, or say
 what causes them to appear as they do. The only
 remedy is the tooth forceps.

Dropsy of Muscles on the Chest.

Symptoms.—The horse is dull, loses his appetite, swells
 the belly and chest before the fore-legs, roots of the mane
 and tail dead.

Cure.—Rowels in the breast and along the sides as far
 back as the swelling goes; then give some good physic.
 After the physic operates give the cleansing powders;
 one tablespoonful twice a day on bran mash till the
 swelling subsides. Keep the horse dry.

**NANCY HANKS. RECORD 2:04.****How To Enliven an Old Horse.**

- 1 ounce oil of cloves,
- 2 ounces oil of sassafras,
- 1 ounce oil of wintergreen,
- 1 ounce tincture cantharides,
- 5 ounces of alcohol,
- 3 ounces tincture of asafoetida.

Mix well, and give twelve drops daily in a pail of water.

To Fatten Old Horses.

One-half gallon alcohol, one quart of brewer's yeast,
 one quart buckwheat flour, two drachms tincture can-
 tharides, four ounces soda; put in a jug and let it stand
 six days and it is fit for use. Dose: One teacupful two
 or three times a day on soft feed.



BREAKING A WILD OR DESPERATE HORSE.

Shoulder Joint Lameness.

Cause.—The most serious form of shoulder joint lameness consists in a softening of the articular cartilage of that joint.

Symptoms.—When this is the character of the lameness, it may be easily known by the manner in which the animal progresses. He usually drags his toe, and throws the leg outward at every step.

Treatment.—In this instance is very unsatisfactory, blisters, setons and firing have been tried in hundreds of cases, without any permanent advantage, for the simple reason that the cartilage is apt to be destroyed, and the underlying bone ulcerated.

Thrush.

The cause and symptoms of thrush are usually well known yet I will describe them as follows: First, fever in feet, bad stable and management, wet bedding, etc., etc.

Treatment.—Cleanse well the parts affected with castile soap and water; open the crevices and apply chloride of zinc thoroughly or crystallized carbolic acid; repeat every day until relieved; cleanse well each time before an application is made. Keep the horses feet on dry floor. Dilute with soft water one ounce of either the zinc or the acid, when it is fit for use.

A Salve for All Kinds of Sores, Ulcers, Bruises, Etc.

White wax, 4 drachms, Lard, 18 drachms, Crystallized carbolic acid, 3 drachms.

Melt the wax and lard together. Stir until cooled, and then add the carbolic acid previously liquified.

To Break a Wild or Ugly Horse,

Place him in a pen as shown in the annexed illustration. Then take a short whip and make him keep his head towards you. You will soon be able to pet him and completely conquer his fear. Avoid whipping. It is ruinous.

To Dry Up Old Sores.

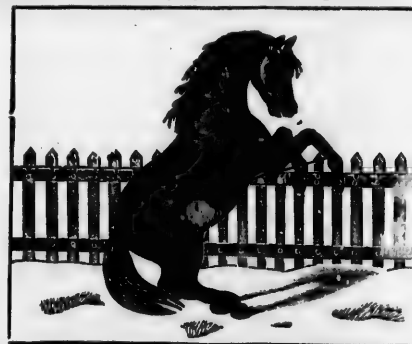
$\frac{1}{4}$ lb. dry white lead; dust on the places twice a day. Horses can be worked all the time.—This is simple and good.

Sore Mouth.

This occurs often by jerking the animal severely with the bit, also from some unknown cause. Apply wash with swab. Tr. myrrh 4 ounces, Sol. alum-water 4 ounces.

Tonics.

Where it is necessary to use tonics, gentian is one of the best vegetables, especially in chronic debility. It is best united with camomile and ginger. Gentian 4 drachms, camomile 2 drachms, ginger 1 drachm; give in balls.

**How to Prevent a Horse from Jumping Fences.**

Buckle a strong surcingle around the body of the horse, with a ring in the bottom of the surcingle under the horse; then buckle a soft strap around both fore-legs above the knees close up to the shoulder; then take a short rope or strap and fasten one end of it into the strap on off fore-leg and draw moderately tight; this will allow the horse to move one leg at a time, to lie down and get up, but he cannot raise both legs at once nor put them forward at the same time.

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him in a pen as in the annexed illustration. Then take a whip and make him keep his head to you. You will be able to pet him completely conquer him. Avoid whinnying. It is ruinous.

Up Old Sores.

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BREAKING A KICKING HORSE.

Liniment for Swellings, Bruises and Galls.

Alcohol, 95 per cent, 8 ounces,
Spirits of turpentine, 8 ounces,
Oil of sassafras, 1 ounce,
Oil of pennyroyal, 1 ounce,
Oil of origanum, 1 ounce,
British oil, 1 ounce,
Tincture of arnica, 1 ounce,
Tincture of cantharides, 1 ounce,
Tincture of camphor, 1 ounce,
Aqua Ammonia, 1 ounce.

Mix them and make a liniment.

A Liniment for Cuts, Kicks, Collar Galls, Wounds, Etc.

Sugar lead, 1 ½ ounces, Sul. iron, ½ ounce,
Sul. zinc, 1 ½ ounces, Alcohol, ½ pint,
Saltpetre, 1 ounce, Water, 2 pints.
Sal. ammonia, ½ ounce.

Wash the parts three or four times a day.

Stoppage of the Bowels.

Take 2 quarts of soft and fresh horse manure, add one quart of boiling hot water, and strain through a common cloth strainer; give one pint as a drench. This will not fail for man or beast; for a man, dose, one tablespoonful every hour until it acts.

Stifle.

This is a strain of the stifle muscles only. The stifle joint never gets out; if it should, the horse would be worthless. The stifle shoe should never be used.

Cure.—Take the whites of six eggs, and two ounces of alum, pulverized; mix well together, and rub on the stifle muscles; dry with a hot iron. One application will probably be sufficient. 2. One ounce of sugar lead, one pint of alcohol; mix and apply three or four times a day, until a cure is effected.

HOW MUCH MEDICINE TO GIVE AT ONE DOSE.

NAME OF DRUG.	USE AND EFFECT.	HORSE.	CATTLE.	SHEEP.
Cream of Tartar.....	Increases the quantity of Urine.	2 os.	3 os.	1 os.
Powdered Elixir.....	Laxative. Increases the Flow of Urine.	1 ½ os.	2 os.	3 drs.
Elixir.....	Checks Bleeding. Contracts the Womb.	1 os.	1 os.	1 dr.
Peppermint Seed.....	Stimulant.	1 to 3 os.	1 ½ os.	1 ½ dr.
Galls, Oak.....	Improves Digestion.	1 os.	1 ½ os.	1 ½ dr.
Ginger.....	Stimulant, Stomachic.	3 drs.	1 os.	1 scruple
Juniper.....	Narcotic.	1 dr.	3 os.	½ os.
Indian Extract of.....	Induces Sleep.	1 dr.	1 ½ dr.	1 ½ dr.
Iodine.....	Alterative. Disposes Enlargements.	15 grs.	12 grains.	12 grains.
Iron Sulphate.....	Tonic. (Never to be given during pregnancy, as it may produce abortion.)	3 drs.	30 grains.	3 grs.
Lime Water.....	Antacid.	3 drs.	3 os.	1 dr.
Lime Chloride.....	Antacid, Astringent.	1 to 2 os.	3 os.	1 dr.
Linseed Oil.....	Laxative.	1 to 3 pils.	2 to 3 os.	1 os.
Lobelia.....	Sedative. Used for Emetics.	2 drs.	3 pils.	1 ½ pils.
Magnesia.....	Laxative, Antidote to Arsenic.	2 os.	3 drs.	1 ½ drs.
Nitre, Sweet spirit of.....	Stimulant, Tonic.	3 drs.	3 os.	1 os.
Nitre, Sweet spirit of.....	Producing Urine.	3 drs.	3 drs.	2 drs.
Oak Bark.....	Stimulant.	1 to 3 os.	3 os.	3 grs.
Olive Oil.....	Astringent.	1 os.	3 os.	4 drs.
Opium, Tincture of.....	Narcotic Sedative.	1 to 2 pils.	3 pils.	3 os.
Peppermint Oil.....	Aids digestion.	1 to 2 drs.	3 drs.	15 grs.
Peppermint Tincture.....	Antispasmodic.	20 drops.	30 drops.	8 drops.
Alum.....	For Fever. A Sedative.	25 drops.	30 drops.	4 drops.
Aloes.....	Purgative and Tonic.	2 drs.	3 drs.	1 drachm.
Aqua Ammonia.....	Stimulant. Anti-spasmodic.	5 drs.	3 drs.	1 drachm.
Arsenic.....	Tonic. Good for Paralysis.	½ os.	3 drs.	½ dr.
Aseofolia.....	Stimulant, Vermifuge.	5 grains.	6 grains.	1 grain.
Anise Seed.....	Stomachic, Carminative.	2 drs.	3 drs.	1 dr.
Arnica Tincture.....	Stimulant, Diuretic.	1 os.	1 dr.	1 scruple.
Bicarbonate of Potash.....	Diuretic. Used for Rheumatism.	8 grs.	7 grains.	1 gr.
Borax.....	Uterine Stimulant.	1 os.	1 os.	1 dr.
Bismuth Subnitrate.....	Use for Irritation of Stomach and Bowels.	2 drs.	3 drs.	30 grs.
Blackberry Root.....	Stimulant and Tonic.	1 dr.	3 drs.	30 grs.
Boneset.....	Promotes the Secretion of Urine.	1 os.	1 os.	3 drs.
Blue Vitriol.....	Purgative for Chronic Diarrhea.	½ dr.	½ dr.	1 scruple.
Calomel.....	Antispasmodic.	1 dr.	1 dr.	1 scruple.
Camphor.....	Improves Digestion.	2 drs.	3 drs.	3 drs.
Canary Seed.....	Purgative.	1 os.	3 os.	1 scruple.
Caster Oil.....	Stimulant.	1 pt.	1 pt.	4 os.
Carbolic Acid.....	Sedative Astringent.	1 dr.	1 dr.	1 scruple.
Chinoline.....	Improves Digestion.	1 ½ drs.	1 os.	2 drs.
Cinnamon.....	Powerful Purgative.	5 drs.	20 drops.	3 drs.
Pepper, Black.....	Stimulant, Stomachic.	10 to 15 drops.	3 drs.	1 scruple.
Pungent Root.....	Vermifuge.	1 os.	1 ½ os.	3 drs.
Prussic Acid.....	Sedative Anti-spasmodic.	25 drops.	30 drops.	7 drops.
Pumpkin Seeds.....	Vermifuge, Increases the flow of Urine.	Give as needed.	1 os.	1 dr.
Rhubarb.....	Laxative, Tonic.	1 os.	1 ½ os.	1 dr.
Resin.....	Increases the Secretion of Urine.	3 drs.	1 os.	1 dr.
Spanish Fly.....	Stimulant.	3 drs.	1 os.	1 dr.
Sulphur.....	Laxative.	3 grs.	7 grains.	1 ½ grs.
Tar.....	Sedative Vermifuge.	5 os.	3 os.	2 os.
Tobacco.....	Expectorant, Anti-septic.	4 drs.	3 drs.	1 os.
Turpentine.....	Stimulant, diuretic. Anti-spasmodic.	1 os.	1 ½ os.	3 os.
Wild Cherry.....	Expectorant.	1 ½ os.	2 os.	3 drs.

HOW TO CLEAN LEATHER.

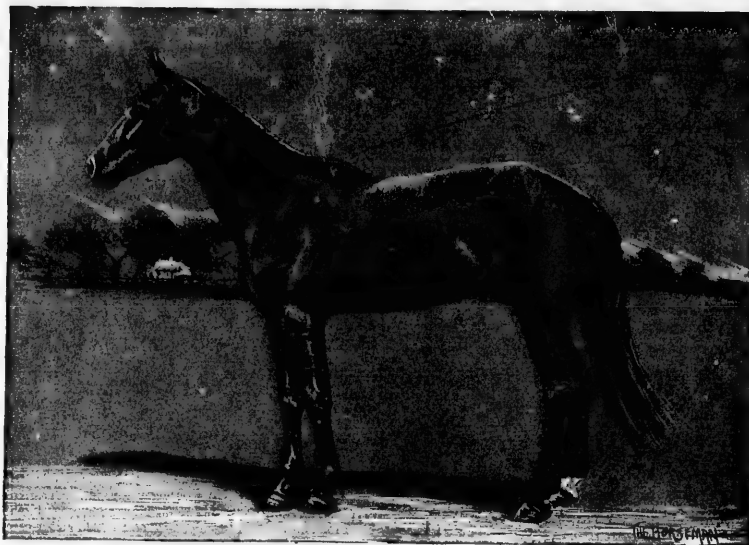
When leather is old and greasy, it should be thoroughly washed and cleaned before applying oil or any preparation for polish.

Wash the leather thoroughly with soft water and ammonia, or rub the leather with a weak solution of potash and water.

How to Clean Light-Colored Leather.

Pawn or yellow-colored leather may be cleaned by taking one quart of skim milk mixed with one ounce of sulphuric acid, and when added to it four ounces of hydrochloric acid.

Shake the bottle gently until it ceases to emit white vapors. Then strain through a fine sieve and put into a bottle.



PACING MARE "KITTY B." 2:10½. By MESSENGER CLAY.

RULES OF ADMISSION TO REGISTER.

1. Any trotting stallion that has a record of two minutes and thirty seconds (2:30), or better; provided any of his get has a record of 2:35 trotting, or better; or provided his sire or dam is already a standard trotting animal.

2. Any mare or gelding that has a trotting record of 2:30 or better.

3. Any horse that is the sire of two trotters with records of 2:30 or better.

4. Any horse that is the sire of one trotter with a record of 2:30 or better, provided he has either of the following additional qualifications: 1. A trotting record of 2:35 or better. 2. Is the sire of two other animals

with trotting records of 2:35. 3. Has a sire or dam that is already a standard animal.

5. Any mare that has produced a trotter, with a record of 2:30.

6. The progeny of a standard horse when out of a standard mare.

7. The female progeny of a standard horse when out of a mare by a standard trotting horse.

8. The female progeny of a standard trotting horse when out of a mare whose dam is a standard trotting mare.

9. Any mare that has a trotting record of 2:35 or better, whose sire or dam is a standard trotting animal.

THE PACING STANDARD.

In order to define what constitutes a standard-bred pacing horse, and to establish a breed of pacers on a more intelligent basis, the following rules are adopted to control admission to registration. When an animal meets the requirements of admission and is duly registered, it shall be accepted as a standard-bred pacing animal.

1. Any pacing stallion that has a record of two minutes and twenty-five seconds (2:25), or better, provided any of his get has a record of 2:30 pacing, or better; or provided his sire or dam is already a standard pacing animal.

2. Any mare or gelding that has a pacing record of 2:25 or better.

3. Any horse that is the sire of two pacers with records of 2:25.

4. Any horse that is the sire of one pacer with a record of 2:25 or better, provided he has either of the following

additional qualifications: 1. A pacing record of 2:30 or better. 2. Is the sire of two other animals with pacing records of 2:30. 3. Has a sire or dam that is already a standard pacing animal.

5. Any mare that has produced a pacer with a record of 2:25 or better.

6. The progeny of a standard pacing horse when out of a standard pacing mare.

7. The female progeny of a standard pacing horse when out of a mare by a standard pacing horse.

8. The female progeny of a standard pacing horse when out of a horse whose dam is a standard pacing mare.

9. Any mare that has a pacing record of 2:30 or better, whose sire or dam is a standard pacing animal.

10. The progeny of a standard trotting horse, out of a standard pacing mare, or of a standard pacing horse, out of a standard trotting mare.

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THE FIRST PLOW.

ABORTION OR PREMATURE BIRTH.

1. **Care.**—Great care should be exercised by way of feeding and handling a mare from the very earliest months of pregnancy until she foals. Avoid feeding any grain that has become smutty, for it contains more or less ergot, which increases the chances of premature birth.

2. **Hempseed.**—If a mare has lost her foal regularly for two or three years, about four months before foaling give her one-half pint hempseed twice a day for one month. If a mare shows indications of

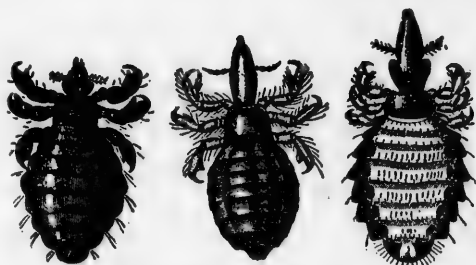


straining before her time, give her a handful of whole wheat three times a day for a few days, but be careful that it is free from smut.

3. **Caution.**—If a mare has lost her colt before the proper time of birth, be careful and keep all other mares that are with foal from smelling or coming in contact with that place, because it is liable to produce abortion upon them.

4. **Trotting.**—No mare after she is with foal should be put upon the track.

5. **Work.**—Work is better than idleness, however, for all mares that are pregnant.



TO DESTROY LICE IN HORSES AND CATTLE.

The first thing necessary is to clean the buildings and feed well the animals affected. Then take

- 4 ounces of lime,
- 1 gallon of warm water and mix together.

First, wash the animals thoroughly with the above.

Second, mix powdered sulphur and lard, equal parts, and the first warm day anoint the animals thoroughly.

COUGH BALL FOR HORSES.

- $\frac{3}{4}$ ounce pulverized ipecac,
- 2 ounces camphor,
- $\frac{1}{2}$ ounce squills.

Mix with honey to form into a mass, and divide into eight balls. Give one every morning.

BLISTERING LINIMENT.

- 1 ounce of yellow resin,
- 3 ounces of lard,
- 1 ounce of Spanish flies.
- 3 ounces of spirits of turpentine.

HOW TO SUBDUCE VICIOUS HORSES.

1. The first thing necessary is kindness and gentleness.
2. If the horse is very vicious, take one fore-foot and

bend his knee until his hoof is bottom upward and nearly touching his body. Then slip a loop over his knee and shove it up until it comes above the pastern joint, having



a small strap attached so as to hold the loop in place, to keep it from slipping down. This will keep the horse standing on three legs.

3. There is something in this operation in keeping up one foot that from the first completely conquers a horse.

4. You can do anything you wish with the horse in this condition, and when he becomes convinced that you are master of the situation he soon becomes docile and quiet.

5. When a horse is first fastened in this way, he is liable to become very excited, and will plunge and strike with his knee, but he will soon become quiet and manageable. A few such trainings will conquer the most vicious animal.

HOW TO GROW A LONG MANE AND TAIL.

Wash the parts thoroughly with soap and apply the following ointment:

- Powdered sulphur, 8 ounces,
- Sweet oil, 4 ounces.

Apply by rubbing in thoroughly.

DISEASES OF THE DOG.



1. **Mange.**—Caused by dirty kennel, neglect, want of nourishment or improper food. *Cure.* One ounce salts, if dog is of moderate size. Rub every third day well into the skin, of the following mixture: Train oil (tanner's oil will do), one quart; spirits turpentine, one large wine glass full; sulphur sufficient to make thin paste; mix well; let it stay on the animal two weeks, then wash well with castile soap and warm water.

2. **To Destroy Lice or Fleas.**—Sometimes the recipe for fleas will prove efficacious, yet not always, but a small quantity of mercurial ointment, reduced by adding hog's lard to it, say an equal quantity, rubbed along the back, never fails; but the greatest care must be taken to keep

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the animal warm and dry. Lard softened with coal oil is a good remedy.

3. **Staggers and Fits.**—This generally happens in warm weather. Throw water on them and slit the ears with your knife just so they will bleed well.

4. **Dog Poisoned.**—Give a teacupful of castor oil. After



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he has vomited well, continue to pour olive oil down his throat and rub his belly.

5. **For a Green Wound.**—Hog's lard, turpentine and beeswax, equal parts; verdigris, one-fourth part. Simmer over a slow fire till they are well mixed and apply.

6. **Torn Ears.**—Laudanum and brandy, equal parts; mix well, and apply alternately with sweet oil.

7. **Give Plenty of Water.**—In hot weather always keep water so that the dog can drink at will. It will avoid hydrophobia.

8. **Fleas.**—Scotch snuff steeped in whisky is infallible, but must be used with great care, and not above a teaspoonful of snuff to a pint of whisky, as the cure, if overdone, is a deadly poison.

9. **To Extract Thorns.**—Cobblers' wax bound on the place, or black pitch plaster, or a poultice, are equally good.

10. **Films Over the Eyes.**—Bluestone or lunar caustic, eight grains; spring water, one ounce. Wash the eyes with it, letting a little pass in. Repeat this daily and you will soon cure it.

11. **Physic for Dogs.**—Salts, one ounce; calomel, five grains or socatrine aloes, two drachms; for moderate sized dog.

12. **Fly Bites on the Ears.**—Common tar, wagon grease taken from the axle, or fresh lard with a little kerosene oil mixed with it.

BITS.

We quote from Prof. Gleason as follows: "My bit is a straight bar bit with check pieces, with slots in lower ring for curb strap. When the bit is buckled to the bridle, the check piece of the bit buckles into the big rings in front of curb strap rings. For driving an ordinary horse the reins are buckled into the big rings. If you have a horse that is liable to run away, kick or shy, or is hard to control, buckle the lines from the big rings, and buckle them down into the slot of the check piece. This gives you 500 pounds pressure, and any lady can drive the worst puller you ever saw. The curb strap must be buckled at all times back of the jaw. Just have it fit snugly. The philosophy of this bit is that, being perfectly square, the moment you pull on the reins the bit turns in the horse's mouth and throws the jaws open; the curb strap doing its work throws the bit directly back from the jaw.

I have studied for over three years to invent a bit that would do its work and do away with all those cruel four ringed bits, chain bits, and in fact all severe bits. This one I am using at the present time at all my exhibitions with grand success, and can recommend it as the best driving bit I ever used.

Its Working and Make.—A represents the mouth-piece of bit proper, which is made in cross sections with its edges cut off or dulled to prevent injuring the horse's mouth. To each end of the mouth-piece or bit proper the rings B are attached in the usual manner. The rings B, preferably made of steel and cast in one piece, are each

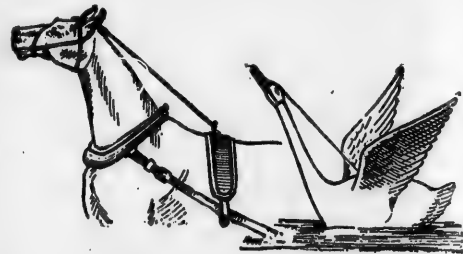


formed with the downwardly projecting arm *B*₁, having a slot *B*₂ for attaching the reins, and with the upwardly projecting loop or eye *B*₃ for receiving a curb strap when desired. * For ordinary use the head-stall *C* and reins *D* will both be secured to the rings *B*, as shown in figure 3; but when the bit is to be used on vicious and unruly horses, the reins *D* are secured to the arms *B*, and the curb-strap *E*, which passes under the jaw of the horse, is secured to the loops or eyes *B*₃, as shown in Fig. 4. When thus arranged, by pulling on the reins the leverage is increased and the mouth-piece or bit proper will be turned, and owing to its being square it will be impossible for the horse to take the bit in his teeth and hold on to it. Instead of forming the arms *B* of the rings with slots, rings may be secured to the ends thereof in the ordinary manner.



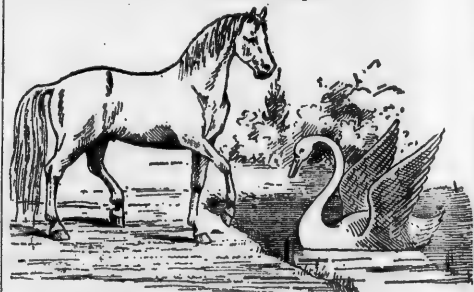
The Check Rein, as used by many of our horse owners, is a cruelty to animals. I will give you my idea of the check rein and how I think it should be used: In the first place, if your horse is born into the world with style he will always have it. If he is born into the world without it, you cannot produce it by the use of straps or ropes,—you but succeed in torturing a poor dumb brute. I approve of the side check rein used only to prevent the horse from putting his head to the ground when you stop your team. I condemn the use of all over-draw check reins, also check bits of every description. A great many believe that by using an over-draw check rein and elevating their horse's head in the air that they drive easier, and that they are guarding against the horse running away. This is wrong. No horse, in my estimation, looks handsomer, freer and easier than those that are driven with open bridles and no check rein. I would here suggest that every team, heavy draft or hack horse, and all animals used by transportation companies should be worked with open bridles, doing away with the blinders and check rein. Give the work horse and the driving horse the free use of his head, the same that you wish yourself, not only will they drive better, but last longer and keep on five per cent. less food.

A law should be passed prohibiting the use of all over-draw check reins, as they pass directly over the brain of the horse.



In this illustration we see the law of curved line violated. Not only is the strap running over the neck made unduly conspicuous, but a straight line running thus over an arching neck is as much out of place as a straight pole would be by the side of a bed of roses. Again, this straight strap is not only a disfigurement of itself, but it is still further injurious to fine appearance in consequence of taking the curve from the horse's neck and converting it into a straight line, besides wearing off and breaking to pieces the mane, which in many horses is a leading feature of beauty. It will also be seen that the grandeur of a horse's bearing and noble pose of head is destroyed by this peculiar method of checking, which turns the eyes upward and the nose outward, and makes the neck appear considerably smaller than it is.

It is impossible to resort to a device that will more effectually destroy the handsome appearance of fine horses than does this foolish appliance for raising the horse's head by means of the over check. There is no beautiful object in nature but would have its beauty marred by a line that would hold it thus in a constrained position.



As will be seen from the above, the horse, which is one of the most beautiful animals in existence, is largely so because of his fine proportions and graceful curving outline.

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In all her objects of beauty nature furnishes the curve. She never allows a straight line. We see this in outer form of bird, leaf, blossom, tree, forest, mountain and planet. This is strikingly shown in the human countenance, which, when wasted by disease, loses its beauty by becoming thin and angular and full of straight lines. With returning health the face becomes more full and more curved, and more color comes into it and beauty is restored.

Horsemen in the dressing of the horse should understand this law, as a well cared for and well groomed horse cannot be improved in appearance by harness. There should be just as little of it used as possible, and every strap should be as small as safety will allow. In short, the harness should be such as will allow the perfect outline of the animal in all its parts to stand forth freely.

Cruelly Tortured by High Checking.—To fully realize the barbarities practiced on some of our best horses: Watch that beautiful team that stands at the church door, or in front of some store, while the owners of the carriage are engaged elsewhere. Possibly the heads of the horses are held in torturing positions by the side checks, which oftentimes hold them too cruelly high, but quite likely it is the over check. See the vigorous pawing of the earth, the clamping of the bit, the throwing of the head, the restless turning of the neck to one side in order to loosen the check, lower the head, and get rest. See the ignorant driver perched on the seat, all oblivious to the restlessness and frantic efforts of the horses to free themselves from their terrible pain. He supposes that spectators will think that with all their restlessness and foaming at the mouth his horses have high mettle.

This is my idea as to how road horses and others should be checked: I positively condemn the over-draw check; it certainly is, and there is no gainsaying it, cruelty to animals to use it. The only utility that I can perceive in the check at all is to keep a horse from putting his nose to the ground when he stops. When a check is used, place the loops high on the cheek pieces to the head stall, as the horse can in such cases have the free use of his head and handle himself with ease and grace. For speeding horses it might become necessary to use the over-draw in some cases, but it must be understood that I hold firm to my idea as to the practicability of its general usefulness.

How to drive a Horse to an object that he is afraid of.—A practical way of driving a horse up to an object that he is afraid of is to take the whip in your right hand and the lines in the left. When you are within ten or fifteen feet of the object speak to the horse sharply and firmly, using about this language: "Get up there, sir! what is the matter with you? that won't hurt you," at the same time hitting him one firm cut with the whip, but do not repeat the blow unless it is necessary to hold him at his post. The moment you have driven up to the object he is

afraid of, stop him, get out of your wagon and caress him. Teach him that he is not going to be harmed, and by all means let him walk from the object, never letting him go faster than a walk. The same method also for saddle horses.

How to stop a Runaway Horse.—Always when driving hold your reins firmly whether the horse is vicious or not. You should at all times be on your guard, as they are never to be trusted. If your horse should take fright and start to run away, take a firm hold of the left line with your left hand, reach down upon the right line with your right hand and say "whoa," sharp, and pull the line quickly at the same time that you give the command, but do not move the left line. This at once pulls your horse's head around to his side, and in nine cases out of ten will bring him so a standstill. Never seesaw the reins or pull on both lines, as you have no power then to stop the animal. Never jump from the carriage, as many lives are lost and limbs broken by being frightened and jumping from the carriage when the horse is running away. Keep cool and you will control the horse easily by following the above directions.

To Teach Colts how to Back.—Having put on a bridle, lead him to the top of rather sloping ground, not very steep, placing the hind feet down the slope, then facing him, taking hold of the reins close to the bits, with a hand on each side, press him gently backward, at the same time saying "back, back," while you follow him, guiding him as he backs, to keep him descending the hill or slope, and not allowing him to turn sideways. Stop occasionally to caress him, but under no circumstances allow yourself to strike him, and he will soon learn what is wanted of him and will willingly do it at the word being spoken every time, if done with patience and gentleness. After he has learned it fairly on the descending ground, do the same upon the level, after which harness him to a light empty buggy or wagon and do the same thing, first upon the descending ground, then upon the level; and finally, if upon a road where the ground is solid, you may get into the vehicle, and with the reins gently pull upon him, always repeating the words "back, back," until he perfectly understands what is desired of him, when he will do it as readily as any other thing. It is only that horses do not know what is wanted of them, or that they are at first required to back greater loads than they are able to do, that there is much trouble in backing them. If the colt is taught, the horse will know how to do it. This plan is as applicable to horses as it is to colts, but for horses which have not had the advantage of training and breaking while colts, as above indicated, it will require more time and patience, and a greater amount of gentleness to accomplish the undertaking. Observe the three things above indicated and you will never fail.

HOW TO DOCTOR CATTLE.



BLACK LEG.

Cause.—This disease is considered epidemic. Fat cattle are generally the victims. It is a disease that is not very general.

Symptoms.—Difficult breathing, moaning or groaning, restlessness, generally lameness in one leg, moving with great difficulty, fever and dryness of the nose, and swelling of the fore and hind quarters.

Treatment.—Saturate a blanket with cold water and keep the animal well covered, but changing it occasionally to keep the blanket cool. This reduces the fever. Then give the following prescription:

Take—Tartar emetic, 40 grains,
Tincture of digitalis, 1 ounce,
Mix in cold water, 1 pint.

Repeat the above dose every two hours, omitting the digitalis after the first two doses.

BLACK TONGUE.

Take—Powdered burnt alum, 4 ounces,
Chloride of lime, 2 ounces,
Corn meal, 2 quarts.

Mix all together, and with this powder swab the mouth several times a day. No part within the mouth should escape the application.

INFLAMMATION OF THE BRAIN.

Take—Tartar emetic, 60 grains,
Spirits of nitre, 2 ounces,
Tincture veratrum viride, 1 ounce.

Mix and give every four hours until the inflammation is subdued; after that, give smaller doses and not so often.

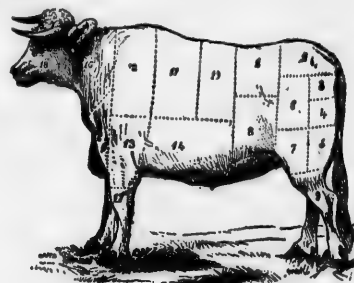
INFLAMMATION OF THE BLADDER.

Give internally one of the following powders every hour until relieved:

Nitrate of potassa, 1 ounce,
Tartrate of antimony, 1 drachm,
Pulverized digitalis leaves, 1 drachm.

Mix, and divide into six powders.

Boiled flaxseed draughts should be freely given.



OR, SHOWING THE MODE OF CUTTING UP THE VARIOUS JOINTS.

INFLAMMATION OF THE BOWELS.

Cause.—Overloading the stomach with musty food, sudden chills after hard work, kicks and blows on the belly, or protracted colic.

Symptoms.—The symptoms are similar to colic, only milder in form. Shivering, labored breathing, lies down very cautiously, will sometimes roll or plunge spasmodically. Pressure on the abdomen gives great pain, while in colic it relieves the pain.

Treatment.—Give eight ounces of linseed oil if the bowels are constipated. Then give the following prescription every three hours:

1 ounce of tincture of belladonna,
1 ounce of essence of sassafras.

Give one-half teaspoonful in half a pint of water. Take good care and give the animal all the cold water it will drink. The disease usually lasts from 5 to 14 days. Severe cases usually prove fatal.

INFLAMMATION OF THE KIDNEYS.

Treatment.—Give one pint of linseed oil and ten drops of castor oil mixed together; follow this with small doses of salts once a day, for three or four days; give injections of water, one-half a gallon to two ounces of tincture of arnica. Mustard applications to the loins are also very useful.

FOR HOLLOW HORN

Take—Pulverized nitre, 2 ounces,
Ground ginger, 4 ounces,
Black antimony, 2 ounces,
Flowers of sulphur, 2 ounces.

Pour two or three tablespoonfuls of turpentine in the hollow back of the horns, and rub the horns well with it.

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COW-POX.

Two varieties of sore teats occur in the cow, in the form of pustular eruptions. They first appear as small vesicles, containing a purulent matter, and subsequently assume a scabby appearance, or small ulcers remain, which often prove troublesome to heal.

Treatment.—Foment the teats well with warm water and castile soap, after which, wipe the bag dry, and dress with citrine ointment. The preparations of iodine have also been recommended, and they are very serviceable.



FOR SORE TEATS, ULCERS, WOUNDS, BRUISES, Etc.

Apply the following "Reliable Healing Ointment:"

Resin, 5 ounces,
Lard, 8 ounces,
Yellow wax, 2 ounces.

Melt them all together, strain through linen, and stir them constantly until cool.

CATTLE COLIC OR HOOVE.

Cause.—Eating large quantities of wet grass, clover, turnips, etc., which causes an accumulation of gas.

Symptoms.—Serious distress and bloating, frequently threatening suffocation.

Treatment.—Give the following prescription:

1 ounce of spirits of hartshorn,
1 quart of water.

Mix, and give at once.

If the above prescription is not readily obtained, give two ounces of table salt dissolved in one quart of water.

If the above treatment is of no relief, extreme treatment must be resorted to. Take a small knife and pierce the abdomen slightly, and place into the cut a common clay pipe-stem or a small tube made of a piece of elder. This will usually give instant relief.

DEHORNING REMEDY.

A calf can be prevented from having horns by an application of crude potash to the spot where the incipient horn can be felt, so Waldo F. Brown says. The plan of dehorning is gaining in favor, and done in this way has much to commend it.



PLEURO-PNEUMONIA.

Cause.—This disease is an inflammation of the lungs and the membranes covering the lungs and chest, commonly called the Pleura. It is a contagious, infectious, and epizootic disease.

Symptoms.—Reduced and irregular appetite, dry cough, the back and the sides along the chest become tender, labored breathing, the nose hot and dry, rumination entirely or partially suspended.

Treatment.—The first thing to do is to separate the diseased cattle from the herd, and give the affected ones the following prescription every day:

2 drachms of sulphate of iron,
1 drachm of carbolic acid.

There are other systems of treatment, such as inoculation, burning of sulphur in the stable, but the only sure remedy is to separate the cattle and keep them separated, and if the affected ones die, it will not injure the others.

DYSENTERY OR FLUX.

Take—Castor oil, 1 1/2 pints,

Spirits of turpentine, 1 ounce.

Mix, and give as a drench. After it acts,

Take—Powdered opium, 40 grains,

Calomel, 40 grains.

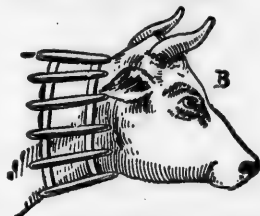
Mix, and give in half a pint of gruel.

MURRAIN.

Cause.—The cause is unknown. It is a constitutional disease, and the worst that farmers have to deal with. It is also considered contagious.

Symptoms.—High fever, painful cough, with small, hard, and rapid pulse, sometimes sore teats, mouth, and feet, diarrhoea, weeping and swollen eyes.

Treatment.—Give 1/4 pound of Epsom salts, with 1 drachm of Jamaica ginger, twice a day, for two or three days. Very little medicine is required internally in this disease, but much depends upon good nursing.



SELF-SUCKING COW.

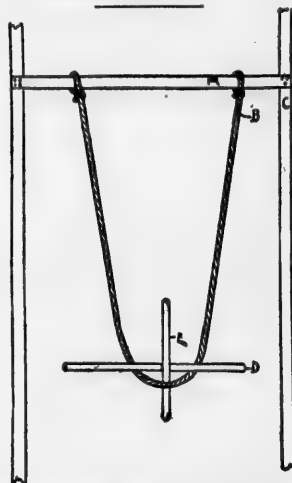
Simple Ways of Preventing the Habit.

From the numerous devices given for keeping cows from sucking themselves we have selected the two shown in the illustration as among the most successful and easily made and tried. The one in the upper part, A, is made as follows: A strap is fastened around the body of the cow and a halter put on her head. A stick is attached to the halter, and reaching between the front legs is fastened to the strap around the body. This prevents getting her head around.

The device shown in the lower part, B, is simply a necklace made from old fork or broom handles strung on a strap and buckled around the neck. Fit it to the cow and make the sticks long enough to keep her from putting her head on the side, but be sure they are not long enough to chafe the shoulders or throat when the head is not turned.

FOR LAMENESS, Etc.

Apply the liniment as prescribed under "Stifle-Joint Lameness" in Horse department.



A SIMPLE CONTRIVANCE FOR LIFTING A BEEF.

Use the space in a double corn crib or driveway in a barn. To a crosspiece, represented at A in the illustration, placed over this driveway, adjust a $\frac{3}{4}$ inch rope, B, as for a swing. After placing the beef on the gamble, D, put the rope swing under it between the legs, lay a stout stick on the middle of the gamble and under the rope, then turn the stick: the rope winds around the gamble. Two men can easily lift a beef in this way without trouble.

N. B.—The stick E is short and can be turned easily between the legs of the beef. Try it.



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HOW TO DOCTOR SHEEP.



The walls of the stomach of the sheep are but slightly acted upon except by doses of very improper magnitude. Medicines to reach the fourth stomach, should be given in a fluid state if possible, and even then it may be given in such a manner as to defeat the object. In giving sheep liquid medicine it should be given very slowly. The pulse of the sheep is about 65 per minute.

BRONCHITIS.

Give salt in doses of 2 ounces, and lime water in doses of 8 ounces.

LUNG FEVER.

Give the following dose every 2 hours:

Take— $\frac{1}{2}$ drachm tincture of digitalis,
 $\frac{1}{2}$ ounce spirits of nitre,
 2 grains tartar emetic.

DYSENTERY.

Take— $\frac{1}{2}$ ounce powdered golden seal,
 1 ounce powdered charcoal,
 1 ounce prepared chalk,
 $\frac{1}{2}$ drachm powdered catechu,
 $\frac{1}{2}$ drachm ginger.

Mix, and give one rounding teaspoonful twice a day. If not well in two days, double the dose.

ROT.

If the foot gives an offensive smell, wash with a solution of chloride of lime 2 ounces, rain water 3 pints.

SORE MOUTH.

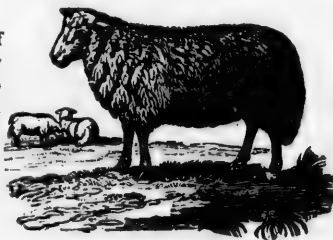
Daub the lips and mouth plentifully with tar.

CATARRH.

Give flaxseed or some other laxative.

MAGGOTS.

The horns of rams may grow very closely to their heads and maggots may accumulate underneath. — Apply powdered tar and they will soon disappear.



FOR SCAB OR MANGE.

Dip into a strong tea of tobacco, or apply the following wash:

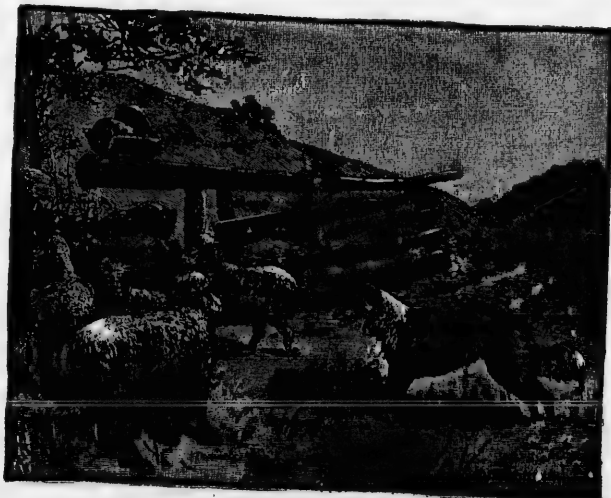
1 quart tobacco tea,
 $\frac{1}{2}$ pint spirits turpentine,
 1 drachm corrosive sublimate.

SHEEP TICK AND LICE.

After the sheep have been sheared 2 weeks boil a refuse quantity of tobacco leaves, or 5 or 6 pounds of plug tobacco. Put the liquid into a trough and dip the sheep, being careful to keep their heads out. This quantity will wash about 100 sheep.

COLIC.

$\frac{1}{2}$ ounce Epsom salts,
 1 drachm Jamaica ginger,
 60 drops essence of peppermint.



HOW TO DOCTOR HOGS.



In the treatment of the hog we cannot enter into details. In sickness he is not a very good patient, and about all that can be done, is to administer a little medicine in his food.

HOW TO CATCH A HOG.

Swine are very difficult animals to handle or master. The following method of getting hold of them has been highly recommended:

RULE.—Fasten a double cord to the end of a stick, and beneath the stick let there be a running noose in the cord; tie a piece of bread to the cord, and present it to the animal; and when he opens his mouth to seize the bread, catch the upper jaw in the noose, and draw it tight, and the pig is fast.

Another method is, to catch one foot in a running noose. This can be applied in various ways; either by suspending it or dropping it on the ground and allowing the hog to step within it, and then jerking it up and catching the leg. Another method is, to take a pole and fasten a long, narrow hook, with a large opening, on the end of it. This can be readily hooked around the hind leg, and it will hold the strongest animal.

THE DREADFUL DISEASE, TRICHINA SPIRALIS.



A Piece of Diseased Meat Greatly Magnified.

Trichina are microscopic worms which infest the muscles, intestines, etc. The mature worms live in the intestines of the animal, and the immature, or minute worms, live in the muscles. This is one of the most serious diseases that attacks the American hog.

Symptoms.—After eating the flesh of animals affected with trichina it takes from 8 to 15 days to manifest the

symptoms. They are severe muscular pains, stiffness of the limbs, and sometimes considerable swelling on the skin; in man the disease is often taken for rheumatism or typhoid fever, and produces loss of appetite, indisposition to move, pain and stiffness.

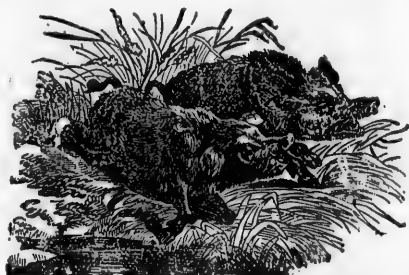
Treatment.—Give a strong dose of physic. Then give the following prescription to diseased animals:

2 drachms of asafetida,
4 drachms of azedarach.

Mix, and give the same once a day in 8 doses.

Glycerine given internally, is also an excellent remedy for trichina.

CAUTION.—Never eat pork, unless it is well and thoroughly cooked.



HOG CHOLERA, AND HOW TO TREAT IT.

In the treatment of hog cholera very little can be done. The diseased animals are always a poison to the healthy ones, and complete separation should be effected at once. There are a thousand different remedies advertised, but none of them are effectual. The government has been investigating the subject many years and as yet has found no specific. The following may be done and will add as much as anything to the safety of a herd of swine:

1. Removal of still healthy animals to inclosed uninfected ground or pens as far as possible from infected localities.
2. Destruction of all diseased animals.
3. Careful burial or burning of the carcasses.
4. Repeated thorough disinfection of the infected premises.
5. Great cleanliness, both as to surroundings and as regards the food, to prevent it becoming infected.
6. Place from one-half to one pound of lime into a gallon of water and give once a day. This is an excellent disinfectant.

7. In view of the fact that very few of the diseased animals ever recover, and there is little in those which do recover, there is but little use to resort to medical treatment, in the endeavor to cure diseased animals.

8. The better way is to kill the diseased animals and burn them, and thus destroy them at once.

THE BEST REMEDY KNOWN FOR HOG CHOLERA.

If the disease prevails in the community, it is very difficult to avoid its attack.

Symptoms.—Loss of energy and appetite, lying down by himself, moving slowly, evacuations of a dark color, bad odor, feet and legs cold; after death the abdomen becomes of a dark purple color.

Treatment.—An excellent preventive is the following: Burn corncobs into charcoal and feed it freely. Mix well together:

6 pounds of powdered sulphur,
1 pound of animal charcoal,
6 ounces of sulphate of iron,
1 pound of pulverized cinchona.

Mix about a tablespoonful for each animal in a few potato peelings or cornmeal three times a day. This

treatment will generally preserve a herd of swine from taking the cholera, even if the disease is in the immediate vicinity.

The following remedy for hog cholera has been extensively used:

2 pounds sulphur, ½ pound saltpetre,
2 pounds madder, 2 ounces arsenic,
½ pound black antimony, 2 pounds copperas.

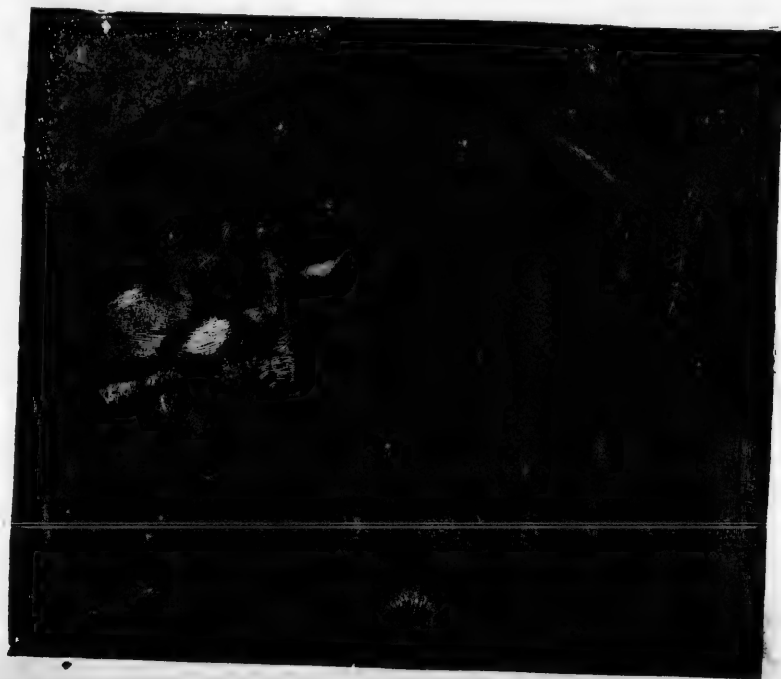
Pulverize and mix. For hogs that are sick, mix from 2 to 4 tablespoonfuls in each pail of swill. As a preventive, 1 teaspoonful in a pail of swill will keep the disease at bay.

Do not allow hogs, sick or well, to run where there is stagnant water.

After the Animals have been Attacked,
give the following prescription:

Take—Ground ginger, 4 ounces,
Black antimony, 2 ounces,
Flour of sulphur, 2 ounces,
Pulverized nitre, 2 ounces,
Sulphate of iron, 4 ounces.

Mix, and give to a large hog one full teaspoonful three times a day; to a hog under 150 pounds a level teaspoonful, and to smaller ones according to size.



TO TREAT IT.

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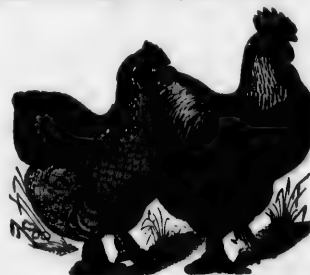
PRACTICAL RULES FOR KEEPING POULTRY.



DARK BRAHMAS.

1. A little glycerine applied occasionally to the combs and wattles, will prevent injury by frosting.
2. A great source of contagion is the drinking troughs. Remember this if roup should make its appearance in your poultry house.
3. In place of "Tonics" drop a nail into the drinking trough and allow it to remain there. It will supply all the "tincture of iron" required.
4. If you feed whole corn, place it in the oven and parch it occasionally and feed smoking hot. The fowls appreciate it in the cold, frosty weather.
5. A little linseed or oil meal given once a week in the soft feed will promote laying. This will not come under the heading of "Dosing the fowls with medicine."
6. Do not throw your table scraps into the swill barrel. Give them to the chickens.
7. One of the most important points in the keeping of ducks is to give them clean, dry quarters at night. They are very prone to leg weakness and cold, damp quarters.
8. Feed your fowls just what they will eat up clean. Fat hens or pullets are poor layers, and the latter is just what you don't want in seasons when eggs are 28 cents or more per dozen.
9. Fowls over three years old are not, as a rule, good breeders. The males are unable to properly fertilize eggs for hatching, while the stock is usually weak. Four years is generally considered a "ripe old age" for a fowl.
10. Each hen, if properly kept, will lay from 200 to 250 eggs a year.
11. Liver and intestines are an excellent food to make hens lay.
12. Keep an abundant supply of lime where the hens can easily get at it if you desire your hens to lay well.
13. Always clean the nest well and put in fresh straw before the hen begins to sit.

14. It is best in breeding to cross or mix the breeds more or less every year. It improves the flesh and general health of the fowls.
15. Pullets are better layers than old hens. Keep your stock young by disposing annually of the old broods.
16. Keep at least one rooster for every eight hens if you desire vigorous young chickens.
17. It is a good plan to change roosters every year.
18. Roosters are best at two years of age.



PARTRIDGE COCHINS.

DISEASES AND THEIR TREATMENTS.

In North America the climate is very good for all kinds of poultry. There are very few diseases but what readily yield to judicious treatment.

Most of the diseases to which fowls are subject, are the result of neglect, exposure, or bad diet.

HOW TO CURE THE CHICKEN CHOLERA.

Symptoms.—The symptoms of chicken cholera are greenish droppings, prostration, and intense thirst. It should not be mistaken for indigestion. Cholera kills quickly, and this is a sure indication.

Remedy.—The best remedy is to add a teaspoonful of carbolic acid to a quart of water and give no other water to drink. The remedy is not a sure cure, but is one of the best. When cholera puts in an appearance, everything on the place should be thoroughly cleaned and disinfected, the remedy mentioned above being also an excellent disinfectant.

Another Good Receipt.

- $\frac{1}{2}$ pound madder,
- $\frac{1}{2}$ pound sulphur,
- 2 ounces antimony,
- 2 ounces saltpetre.
- $\frac{1}{4}$ pound cayenne pepper.

Mix a tablespoonful in feed for 30 chickens.

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POULTRY.

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BROWN LEGHORNS.

ASTHMA.

Symptoms.—The fowls labor for breath, opening the beak often and for quite a time, and sometimes drops of blood appearing on the beak.

Treatment.—Take the disease in hand as soon as discovered, keep the fowl warm, and give equal parts of sulphur and fresh butter (or fresh lard) thoroughly mixed.

FEVER.

Symptoms.—Restlessness, refusing to eat, drooping wings and excessive heat.

Treatment.—Mix a little castor oil with burnt butter and give a teaspoonful three times a day.

LOSS OF FEATHERS.

This disease, common to confined fowls, should not be confused with the natural process of moulting. In the diseased state no new feathers come to replace the old.

Treatment.—Keep warm, and feed hemp seed and corn. Add brown sugar to the water.

GAPES.

The Gapes is a very common ailment of poultry and domestic birds. More common among the young than the old.

Cause.—The disease is caused by the presence of little red worms in the wind-pipe, about the size of a small cambric needle.

Symptoms.—Gaping for breath with beak wide open, yellow beak, tongue dry and feathers ruffled on the head and neck.

Treatment.—Give a pill each morning made of equal parts of scraped garlic and horse radish, with as much cayenne pepper as will outweigh a grain of wheat, mix with fresh butter.

If a good many are affected, put from 5 to 10 drops of turpentine to a pint of meal.

Treatment must be given in the early stages of the disease, or all remedies will fail.

HOW TO DESTROY AND KEEP RID OF HEN'S LICE.

All fowls are more or less infested with lice. Fowls are sometimes so covered that the natural color of the feathers cannot be distinguished. These loathsome vermin will not only cover the fowls, but will multiply and spread over the entire hen-house, barn, woodshed, or any other place, frequented by the poultry.

Poultry cannot be fattened when covered with lice.

Remedy.—1. Whitewash the hen-house frequently, whitewash all the roosting poles, etc., or run them slowly through a fire of old straw or hay.

2. Close the hen-house up tightly and burn sulphur in it. The sulphur fumes will penetrate every crevice and destroy the vermin.

3. Flower of sulphur may be mixed with Indian meal and water and be fed, in proportion of 1 pound of sulphur to 1 peck of corn meal.

4. Applying grease of any kind by rubbing it among the feathers is certain death to the vermin.



Chicken Mites and Their Extermination.

The above illustration shows the chicken mite greatly enlarged. These are little insects or parasites; the older ones of which are of a darkish gray and the younger ones are a clear whitish color, and are about the size of a pin's head.

These parasites secrete themselves between the cracks and corners of the perches during the day-time, but sally forth to draw the blood of their victims during the night. They accumulate by the thousands and are very destructive to good poultry.

Close the hen-house or whatever place they are found in and take a few pieces of brimstone and heat a piece of iron, like a nut or small bolt, red hot and place it into the basin containing the brimstone, and let it consume the brimstone. This smoke will penetrate every crevice in

the hen-house, and will prove after a few trials very effectual. Then wash the roost or crevices where they are found with kerosene oil, after which put on a good coat of tar; it is also excellent for the roost-poles.

FOR SCALY LEGS.

Apply a little kerosene oil once a week. Be careful not to get on too much, or it will blister and injure.

HOW TO PICKLE EGGS.

1. A good, cool place is necessary. The temperature must be kept above the freezing point.

2. Select a good kerosene barrel and take out the head and set fire to the inside and burn it until slightly charred, then smother out the fire by turning it bottom side up. Scrape off charred parts and soak in lime-water, until the smell of kerosene is entirely removed.

3. *To Make the Pickle.*—Take one bushel of best fresh lime, one peck of rock-salt, and 60 gallons of clean water, (use similar proportions for smaller quantities.) Slake the lime as for making whitewash, add the rest of the water, and then the salt. Stir well two or three times the first day, and then let it stand until well settled and cold.

4. Now dip off the clear fluid carefully and put it into the barrel until about one-half full.

5. Now put in the eggs without breaking. When you have about a foot of eggs on the bottom of the barrel pour in some of the "milky" pickle made by stirring up the lime and water left. It is these light, fine particles of lime settling on the eggs and filling the pores that preserve the eggs.

6. Care should be taken not to put in too much or too little of the "milky" pickle, pour in enough to cover the

eggs nicely when settled. If not enough lime the white of the egg will get watery, if too much it will stick on the outside like plaster, and be difficult to remove.

7. A faucet should be fitted into the barrel about six inches from the bottom, so that the pickle can be drawn off when necessary.

8. A common method for small quantities; Take a box or half barrel and first put in a layer of common salt, and then a layer of eggs, and so on, until the desired quantity is packed.



"Poultry Raisers' Egg Food Powder."

(TO MAKE HENS LAY EGGS.)

Red pepper powdered, 2 ounces,
Allspice powdered, 4 ounces,
Ginger powdered, 6 ounces.

Mix them by sifting.

One tablespoonful to be mixed with every pound of food, and fed 2 or 3 times a week. Also feed chopped-up fresh meat.



FIG. No. 1. The caters "hen" displayed expected a

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HOW TO FORETELL THE WEATHER.

DIRECTIONS TO MARINERS AND OTHERS WITH REFERENCE TO CANADIAN STORM WARNINGS ISSUED FOR THE LAKES.

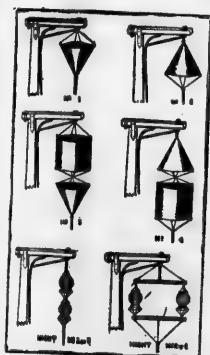


FIG. NO. 4.—If displayed on Lakes Superior, Erie or Ontario indicates "heavy gale is expected at first from a Westerly direction." If displayed on Lake Huron or Georgian Bay indicates "heavy gale is expected at first from a Northerly direction."

The *Cone*, when hoisted by itself, indicates that it is expected that the wind will attain a velocity of 25 miles an hour, but will not exceed 35 miles, and it is not intended that an ordinary well found vessel should stay in port, but simply as a warning to mariners that strong winds are expected from the quarter indicated.

The *Drum* will always be hoisted when the velocity of the wind is expected to exceed 35 miles an hour.

The night signal, corresponding to Nos. 1 and 3, is two lanterns hanging *perpendicularly*.

Night signal corresponding to Nos. 2 and 4 is two lanterns hanging *horizontally*.

FIG. NO. 1.—This signal, if displayed on Lakes Superior, Erie or Ontario indicates "moderate gale is expected at first from an Easterly direction." If displayed on Lake Huron or Georgian Bay indicates a "moderate gale is expected at first from a Southerly direction."

FIG. NO. 2.—If displayed on Lakes Superior, Erie or Ontario, indicates "moderate gale is expected at first from a Westerly direction." If displayed on Lake Huron or Georgian Bay indicates "moderate gale is expected at first from a Northerly direction."

FIG. NO. 3.—If displayed on Lakes Superior, Erie or Ontario, indicates that a "heavy gale is expected at first from an Easterly direction." If displayed on Lake Huron or Georgian Bay indicates "heavy gale is expected at first from a Southerly direction."

highest of all the clouds. When they are very thin, they indicate fair weather; when very abundant and conspicuous, they indicate high winds or rain.



Names of the Clouds.

NO. 1. CIRRUS.	NO. 4. NIMBUS.
NO. 2. CIRRO CUMULUS.	NO. 5. STRATUS.
NO. 3. CUMULUS.	

HOW TO FORETELL THE WEATHER.

The Different Kinds of Clouds and Weather Indications.

1. CLOUDS. Clouds are nothing but fog, and differ only in elevation above the earth. A fog resting on the top of a mountain is called a cloud, and a cloud resting on the surface of the earth is called a fog.

2. RAIN. Rain is only produced by accumulated moisture in the atmosphere, and this accumulation being seen in the form of clouds, hence all rain appears in the form of clouds. It is necessary then to understand the different forms of clouds and know their relation to each other.

3. CIRRUS. The Cirrus cloud, sometimes called "cat-tail," as the appearance and form are like woolly hair, a crest of feathers, or a slender net work. They are the

4. CUMULUS. This cloud is in the form of a bale of cotton, and occurs in the lower regions of the atmosphere. In fair weather the Cumulus forms a few hours after sunrise, goes on increasing until the hottest part of the day, and then disappears at sunset. It generally indicates fair weather.

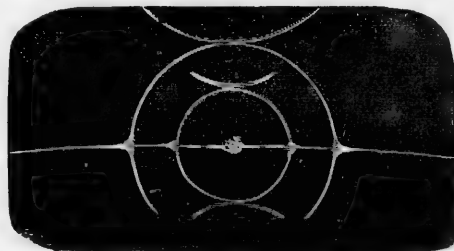
5. CIRRO-CUMULUS. These clouds have a sort of fleecy appearance, and are sometimes called wooly clouds. They indicate warm and dry weather.

6. STRATUS. This cloud consists of horizontal bands near the surface of the earth. It generally appears late in the evening or at night, forming at sunset and disappearing at sunrise. This Stratus is sometimes broken up into small parts, and is sometimes called "Mackerel Sky,"

and scientifically known as Cirro-Stratus. They indicate in that condition wind and rain.

7. **NIMBUS OR RAIN CLOUD.** The Cumulus Clouds often change into Nimbus, which are sometimes called Thunder Heads, and appear sometimes in great magnificence, and are easily known when seen. Thunder and lightning and wind and storms follow in their pathway.

8. **SUNSET COLORS.** A darkish gray sunset, with the clouds tinged with a green or a yellowish green, indicates rain. A red sunrise generally indicates rain, but a bright red sunset on the contrary is an indication of fair weather.



SUN DOGS AND CORONA.

9. **HALO OR SUN DOGS.** These are large circles around the sun or moon, having imitation suns and moons in the circle. A halo or sun dog appearing in fine weather indicates storm.

10. **CORONA.** These are small colored circles, particularly seen around the sun or moon. If the circles are small, they indicate rain; but if they grow larger, it indicates fair weather.

11. **RAINBOWS.** Rainbows in the morning are regarded as a sign of rain; but if a rainbow appears in the evening, the following day is generally fair.

12. **SKY.** A deep blue color of the sky indicates fair weather, but if this blue appearance of the sky grows lighter during the day it indicates an approaching storm.

13. **FOGS.** Fogs are generally an indication of fair weather.

STARS. If the stars are very thick and numerous it is a good sign of rain or storm, but if the stars are not very numerous in appearance and the sky is clear it indicates fair weather.



THE EARTH IN THE FOUR POSITIONS OF SPRING, SUMMER, FALL AND WINTER.

WEATHER WISDOM.

1. The following weather tables will be found valuable. They pertain to the moon's changes and are considered reliable.

2. They are the results of many years' observation and are based on the attraction of the sun and moon, in their several positions respecting the earth.

3. It will take but little observation and care to prove their value.

IF NEW MOON, FIRST QUARTER,
FULL MOON OR LAST QUARTER
HAPPENS

Between midnight and 2 a. m.
" 2 and 4 morning...
" 4 and 6 "
" 6 and 8 "
" 8 and 10 "
" 10 and 12 "
" 12 and 2 afternoon...
" 2 and 4 "
" 4 and 6 "
" 6 and 8 "
" 8 and 10 "
" 10 and midnight...

IN SUMMER.

Fair...
Cold and showery...
Rain...
Wind and rain...
Changeable...
Frequent showers...
Very rainy...
Changeable...
Fair...
Fair if wind N. W.
Rainy if S. or S. W.
Fair...

IN WINTER.

Frost unless wind S. W.
Snow and stormy...
Rain...
Stormy...
Cold rain if wind W., snow if E.
Cold and high wind...
Snow or rain...
Fair and mild...
Fair...
Fair & frosty if wind N. or N. E.
Rain or snow if S. or S. W.
Fair and frosty...



THE TWO HEMISPHERES.

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TAB

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Cow.
Ewe.
Goat.
Sow.

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IN WINTER.

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and high wind.
or rain.
and mild.

a frosty if wind N. or N. E.
or snow if S. or S. W.
and frosty.



THE WORLD FAMOUS MARE MAUD S.

HOW TO USE THE BREEDERS' TABLE.

The following table will show the period of gestation and incubation of the different animals and fowls com-
mon on the farm.

TABLE GIVING THE PERIODS OF GESTATION AND INCUBATION OF DIFFERENT
ANIMALS AND FOWLS.

Mare.....	48 weeks.	Bitch.....	9 weeks.	Partridge.....	24 days.
Cow.....	40 "	Goose.....	30 days.	Chicken.....	21 "
Ewe.....	22 "	Turkey.....	28 "	Pigeon.....	18 "
Goat.....	22 "	Duck.....	28 "	Canary.....	13 "
Sow.....	16 "	Pheasant.....	24 "	Peafowl.....	28 "

1. **Keeping Record.**—In the back part of this work are found the forms of keeping the record of the pedigree, time of gestation, etc.

2. **Value of Records.**—Every stock owner should have some system and record of his stock. It takes but a moment, and sometimes may be found of great value.

3. **Instructions.**—First refer to the month in the "Breeder's Table;" then under the name of the animal find the date opposite of the time of breeding and you will have the expected time.

4. **Examples.**—If a mare is bred April 19th, the expected time is March 19th. (See Table.) If a cow is bred April 26th, the expected time is January 26th. If a ewe is bred June 26th, the expected time is November 27th. If a sow is bred August 9th, the expected time is November 28th. These examples will all be found in the table, and no mistake can be made if the tables are properly consulted.

THE CELEBRATED BREEDING TABLES.

JANUARY.					FEBRUARY.					MARCH.				
JAN.	Horses	Cattle	Sheep	Hogs	FEB.	Horses	Cattle	Sheep	Hogs	MAR.	Horses	Cattle	Sheep	Hogs
1	Dec. 1	Oct. 1	June 4	Apr. 23	1	Jan. 1	Nov. 1	July 5	May 24	1	Feb. 1	Dec. 1	Aug. 2	June 21
2	2	2	5	24	2	2	2	6	25	2	2	2	3	22
3	3	3	6	25	3	3	3	7	26	3	3	3	4	23
4	4	4	7	26	4	4	4	8	27	4	4	4	5	24
5	5	5	8	27	5	5	5	9	28	5	5	5	6	25
6	6	6	9	28	6	6	6	10	29	6	6	6	7	26
7	7	7	10	29	7	7	7	11	30	7	7	7	8	27
8	8	8	11	30	8	8	8	12	31	8	8	8	9	28
9	9	9	12	May 1	9	9	9	13	June 1	9	9	9	10	29
10	10	10	13	2	10	10	10	14	2	10	10	10	11	30
11	11	11	14	3	11	11	11	15	3	11	11	11	12	July 1
12	12	12	15	4	12	12	12	16	4	12	12	12	13	2
13	13	13	16	5	13	13	13	17	5	13	13	13	14	3
14	14	14	17	6	14	14	14	18	6	14	14	14	15	4
15	15	15	18	7	15	15	15	19	7	15	15	15	16	5
16	16	16	19	8	16	16	16	20	8	16	16	16	17	6
17	17	17	20	9	17	17	17	21	9	17	17	17	18	7
18	18	18	21	10	18	18	18	22	10	18	18	18	19	8
19	19	19	22	11	19	19	19	23	11	19	19	19	20	9
20	20	20	23	12	20	20	20	24	12	20	20	20	21	10
21	21	21	24	13	21	21	21	25	13	21	21	21	22	11
22	22	22	25	14	22	22	22	26	14	22	22	22	23	12
23	23	23	26	15	23	23	23	27	15	23	23	23	24	13
24	24	24	27	16	24	24	24	28	16	24	24	24	25	14
25	25	25	28	17	25	25	25	29	17	25	25	25	26	15
26	26	26	29	18	26	26	26	30	18	26	26	26	27	16
27	27	27	30	19	27	27	27	31	19	27	27	27	28	17
28	28	28	July 1	20	28	28	28	Aug 1	20	28	28	28	29	18
29	29	29	2	21						29	Mar. 1	29	30	19
30	30	30	3	22						30	2	30	31	20
31	31	31	4	23						31	3	31	Sep. 1	21

Find the month and day in left hand column and trace to the right until reaching the figures in the column of the name of the stock whose expected time is desired, and that will be the expected period.

APRIL.					MAY.					JUNE.				
APRIL.	Horses	Cattle	Sheep	Hogs	MAY	Horses	Cattle	Sheep	Hogs	JUNE	Horses	Cattle	Sheep	Hogs
1	Mar. 1	Jan. 1	Sep. 2	July 22	1	Apr. 1	Feb. 1	Oct. 2	Aug. 21	1	May 1	Mar. 1	Nov. 2	Sept. 21
2	2	2	3	23	2	2	2	3	22	2	2	2	3	22
3	3	3	4	24	3	3	3	4	23	3	3	3	4	23
4	4	4	5	25	4	4	4	5	24	4	4	4	5	24
5	5	5	6	26	5	5	5	6	25	5	5	5	6	25
6	6	6	7	27	6	6	6	7	26	6	6	6	7	26
7	7	7	8	28	7	7	7	8	27	7	7	7	8	27
8	8	8	9	29	8	8	8	9	28	8	8	8	9	28
9	9	9	10	30	9	9	9	10	29	9	9	9	10	29
10	10	10	11	31	10	10	10	11	30	10	10	10	11	30
11	11	11	12	Aug. 1	11	11	11	12	31	11	11	11	12	Oct. 1
12	12	12	13	2	12	12	12	13	1	12	12	12	13	2
13	13	13	14	3	13	13	13	14	2	13	13	13	14	3
14	14	14	15	4	14	14	14	15	3	14	14	14	15	4
15	15	15	16	5	15	15	15	16	4	15	15	15	16	5
16	16	16	17	6	16	16	16	17	5	16	16	16	17	6
17	17	17	18	7	17	17	17	18	6	17	17	17	18	7
18	18	18	19	8	18	18	18	19	7	18	18	18	19	8
19	19	19	20	9	19	19	19	20	8	19	19	19	20	9
20	20	20	21	10	20	20	20	21	9	20	20	20	21	10
21	21	21	22	11	21	21	21	22	10	21	21	21	22	11
22	22	22	23	12	22	22	22	23	11	22	22	22	23	12
23	23	23	24	13	23	23	23	24	12	23	23	23	24	13
24	24	24	25	14	24	24	24	25	13	24	24	24	25	14
25	25	25	26	15	25	25	25	26	14	25	25	25	26	15
26	26	26	27	16	26	26	26	27	15	26	26	26	27	16
27	27	27	28	17	27	27	27	28	16	27	27	27	28	17
28	28	28	29	18	28	28	28	29	17	28	28	28	29	18
29	29	29	30	19	29	29	Mar. 1	30	18	29	29	29	30	19
30	30	30	Oct. 1	20	30	30	2	31	19	30	30	30	Dec. 1	20
					31	May 1	3	Nov 1	20					

ABLES.

THE CELEBRATED BREEDING TABLES.

DE.

Sheep	Hogs
Aug 2	Jan 21
3	22
4	23
5	24
6	25
7	26
8	27
9	28
10	29
11	30
12	July 1
13	2
14	3
15	4
16	5
17	6
18	7
19	8
20	9
21	10
22	11
23	12
24	13
25	14
26	15
27	16
28	17
29	18
30	19
31	20
Sep. 1	21

column of the name

E.

Sheep	Hogs
Nov 2	Sept. 21
3	22
4	23
5	24
6	25
7	26
8	27
9	28
10	29
11	30
12	Oct. 1
13	2
14	3
15	4
16	5
17	6
18	7
19	8
20	9
21	10
22	11
23	12
24	13
25	14
26	15
27	16
28	17
29	18
30	19
Dec. 1	20

JULY.					AUGUST.					SEPTEMBER.				
JULY	Horses	Cattle	Sheep	Hogs	AUG.	Horses	Cattle	Sheep	Hogs	SEPT.	Horses	Cattle	Sheep	Hogs
1	June 1	Apr. 1	Dec. 2	Oct. 20	1	July 1	May 1	Jan. 2	Nov. 20	1	Aug. 1	June 1	Feb. 2	Dec. 21
2	2	2	3	21	2	2	2	3	21	2	2	2	3	22
3	3	3	4	22	3	3	3	4	22	3	3	3	4	23
4	4	4	5	23	4	4	4	5	23	4	4	4	5	24
5	5	5	6	24	5	5	5	6	24	5	5	5	6	25
6	6	6	7	25	6	6	6	7	25	6	6	6	7	26
7	7	7	8	26	7	7	7	8	26	7	7	7	8	27
8	8	8	9	27	8	8	8	9	27	8	8	8	9	28
9	9	9	10	28	9	9	9	10	28	9	9	9	10	29
10	10	10	11	29	10	10	10	11	29	10	10	10	11	30
11	11	11	12	30	11	11	11	12	30	11	11	11	12	31
12	12	12	13	31	12	12	12	13	Dec. 1	12	12	12	13	Jan. 1
13	13	13	14	Nov. 1	13	13	13	14	2	13	13	13	14	2
14	14	14	15	2	14	14	14	15	3	14	14	14	15	3
15	15	15	16	3	15	15	15	16	4	15	15	15	16	4
16	16	16	17	4	16	16	16	17	5	16	16	16	17	5
17	17	17	18	5	17	17	17	18	6	17	17	17	18	6
18	18	18	19	6	18	18	18	19	7	18	18	18	19	7
19	19	19	20	7	19	19	19	20	8	19	19	19	20	8
20	20	20	21	8	20	20	20	21	9	20	20	20	21	9
21	21	21	22	9	21	21	21	22	10	21	21	21	22	10
22	22	22	23	10	22	22	22	23	11	22	22	22	23	11
23	23	23	24	11	23	23	23	24	12	23	23	23	24	12
24	24	24	25	12	24	24	24	25	13	24	24	24	25	13
25	25	25	26	13	25	25	25	26	14	25	25	25	26	14
26	26	26	27	14	26	26	26	27	15	26	26	26	27	15
27	27	27	28	15	27	27	27	28	16	27	27	27	28	16
28	28	28	29	16	28	28	28	29	17	28	28	28	29	17
29	29	29	30	17	29	29	29	30	18	29	29	29	30	18
30	30	30	31	18	30	30	30	31	19	30	30	30	31	19
31	July 1	May 1	Jan. 1	19	31	31	31	Feb. 1	20	31	31	31	3	19

EXAMPLE.—If a Mare is bred May 12, the expected time is April 12, eleven months. If Hogs are bred May 10, the expected time is Aug. 30. If Cattle are bred May 29, the expected time is March 1.

OCTOBER.					NOVEMBER.					DECEMBER.				
OCT.	Horses	Cattle	Sheep	Hogs	NOV.	Horses	Cattle	Sheep	Hogs	DEC.	Horses	Cattle	Sheep	Hogs
1	Sept. 1	July 1	Mar. 4	Jan. 20	1	Oct. 1	Aug. 1	Apr. 4	Feb. 20	1	Nov. 1	Sept. 1	May 4	Mar. 22
2	2	2	3	21	2	2	2	3	21	2	2	2	3	23
3	3	3	4	22	3	3	3	4	22	3	3	3	4	24
4	4	4	5	23	4	4	4	5	23	4	4	4	5	25
5	5	5	6	24	5	5	5	6	24	5	5	5	6	26
6	6	6	7	25	6	6	6	7	25	6	6	6	7	27
7	7	7	8	26	7	7	7	8	26	7	7	7	8	28
8	8	8	9	27	8	8	8	9	27	8	8	8	9	29
9	9	9	10	28	9	9	9	10	28	9	9	9	10	30
10	10	10	11	29	10	10	10	11	29	10	10	10	11	31
11	11	11	12	30	11	11	11	12	30	11	11	11	12	Apr. 1
12	12	12	13	31	12	12	12	13	Mar. 1	12	12	12	13	2
13	13	13	14	Feb. 1	13	13	13	14	2	13	13	13	14	3
14	14	14	15	2	14	14	14	15	3	14	14	14	15	4
15	15	15	16	3	15	15	15	16	4	15	15	15	16	5
16	16	16	17	4	16	16	16	17	5	16	16	16	17	6
17	17	17	18	5	17	17	17	18	6	17	17	17	18	7
18	18	18	19	6	18	18	18	19	7	18	18	18	19	8
19	19	19	20	7	19	19	19	20	8	19	19	19	20	9
20	20	20	21	8	20	20	20	21	9	20	20	20	21	10
21	21	21	22	9	21	21	21	22	10	21	21	21	22	11
22	22	22	23	10	22	22	22	23	11	22	22	22	23	12
23	23	23	24	11	23	23	23	24	12	23	23	23	24	13
24	24	24	25	12	24	24	24	25	13	24	24	24	25	14
25	25	25	26	13	25	25	25	26	14	25	25	25	26	15
26	26	26	27	14	26	26	26	27	15	26	26	26	27	16
27	27	27	28	15	27	27	27	28	16	27	27	27	28	17
28	28	28	29	16	28	28	28	29	17	28	28	28	29	18
29	29	29	30	17	29	29	29	30	18	29	29	29	30	19
30	30	30	31	18	30	30	30	31	19	30	30	30	31	20
31	Oct. 1	31	3	19	31	31	31	3	20	31	Dec. 1	Oct. 1	3	21

TIME AT WHICH MONEY DOUBLES AT INTEREST.

RATE PER CENT.	SIMPLE INTEREST.	COMPOUND INTEREST.
2	50 years	35 years.
2½	40 "	28 " 26 days
3	33 " 4 months	23 " 164 "
3½	28 " 208 days	20 " 54 "
4	25 " 17 "	17 " 246 "
4½	22 " 81 days	15 " 273 "
5	20 " 14 "	14 " 75 "
6	16 " 8 months	11 " 327 "
7	14 " 104 days	10 " 89 "
8	12 " 6 months	9 " 2 "
9	11 " 40 days	8 " 16 "
10	10 "	7 " 100 "

WEIGHT OF GRAIN, ETC., TO THE BUSHEL.

	LBS.
Wheat, Peas, Beans, Potatoes, Clover Seed, Onions, Turnips, Carrots, Parsnips and Beets.....	60
Indian Corn, Rye and Salt.....	56
Flax Seed.....	50
Barley, Buckwheat and Timothy Seed.....	48
Hemp Seed.....	44
Castor Bean Seed.....	40
Malt.....	36
Oats.....	34
Dried Peaches.....	38
Dried Apples.....	32
Blue Grass Seed.....	14

TABLE GIVING THE AMOUNT OF SEED THAT IS
USUALLY USED TO SOW OR PLANT
AN ACRE OF GROUND.

Potatoes.....	10 to 15 bush.
Peas.....	2 to 4 "
Oats.....	2 to 3 "
Wheat, Barley and Orchard Grass.....	1½ to 2 "
Blue Grass.....	2 bush.
Mixed Lawn Grass.....	1 to 2 "
Rye.....	1½ bush.
Buckwheat and Milot.....	½ "
Corn (sowed).....	4 "
Corn (in hill).....	4 to 8 qts.
Clover, Red.....	5 to 8 "
Clover, White.....	3 to 5 "
Timothy.....	4 to 6 "
Red Top.....	1 to 2 pks.
Turnips.....	1 to 3 lbs.
Onion Seed.....	4 lbs.
Rutabagas.....	¼ "

THE COST OF SMOKING.

The following figures show the expense of smoking two cigars and three cigars a day, at 5 cents each, and at 10 cents each, from the age of 20 to the end of each period of five years, up to the age of 70, 6 per cent. compound interest semi-annually being reckoned upon the money.

FROM THE AGE OF—	TWO CIGARS A DAY AT 5 CENTS EACH.		THREE CIGARS A DAY AT 5 CENTS EACH.	
	Principal.	Prin. & Int.	Principal.	Prin. & Int.
20 to 25 years.....	\$ 182.50	\$ 209.21	\$ 273.75	\$ 313.95
20 to 30 ".....	365.00	490.39	547.50	745.74
20 to 35 ".....	574.50	868.25	821.25	1,314.72
20 to 40 ".....	730.00	1,376.08	1,095.00	2,081.16
20 to 45 ".....	912.50	2,058.44	1,368.75	3,110.74
20 to 50 ".....	1,095.00	3,094.99	1,642.50	4,494.41
20 to 55 ".....	1,277.50	4,367.46	1,916.25	6,353.87
20 to 60 ".....	1,460.00	6,078.73	2,190.00	8,555.02
20 to 65 ".....	1,642.50	8,378.52	2,463.75	12,215.36
20 to 70 ".....	1,825.00	11,459.25	2,737.50	16,216.37

FROM THE AGE OF—	TWO CIGARS A DAY AT 10 CENTS EACH.		THREE CIGARS A DAY AT 10 CENTS EACH.	
	Principal.	Prin. & Int.	Principal.	Prin. & Int.
20 to 25 years.....	\$ 365.00	\$ 418.43	\$ 547.50	\$ 627.95
20 to 30 ".....	730.00	980.78	1,095.00	1,471.56
20 to 35 ".....	1,095.00	1,736.52	1,642.50	2,717.85
20 to 40 ".....	1,460.00	2,752.20	2,190.00	4,281.24
20 to 45 ".....	1,825.00	4,115.32	2,737.50	6,382.47
20 to 50 ".....	2,190.00	5,949.88	3,285.00	9,205.16
20 to 55 ".....	2,555.00	8,414.47	3,832.50	12,998.61
20 to 60 ".....	2,920.00	11,738.03	4,380.00	18,100.14
20 to 65 ".....	3,285.00	16,093.51	4,927.50	24,952.72
20 to 70 ".....	3,650.00	21,937.72	5,475.00	34,162.14

BOXES OF DIFFERENT MEASUREMENT.

A box 24 inches long by 16 inches wide and 28 inches deep will contain a barrel (3 bushels).

A box 24 inches long by 16 inches wide and 14 inches deep will contain half a barrel.

A box 16 inches square and 8½ inches deep will contain one bushel. A box 16 inches by 8½ inches wide and 8 inches deep will contain half a bushel.

A box 8 inches by 8½ inches wide and 8 inches deep will contain one peck.

BUSINESS MAXIMS.

1. Maxims are the condensed good sense of the ages. They are the short sermons of life, to be read as we run.

2. He that tilleth his land shall have plenty of bread; but he that followeth after vain persons shall have poverty enough.

3. Buy what thou hast no need of, and ere long thou shalt sell thy necessities.

4. A wealthy farmer said when asked how he made his money, "Sir, I understood my business and attended to it." In that reply is the sum and substance of all true success.

5. He that getteth riches, and not by right, shall leave them in the midst of his days.

6. The church and the savings bank are the poor man's best friends.

7. Take care of your farm while young, and it will take care of you when old. Follow your business closely, and it will lead you to honor and wealth.

8. It is not the amount of goods that a mill produces that makes the owners rich or poor, but the amount compared with the capital invested and the help employed.

9. Products are raised cheapest on the farm where the laborers are happy.

10. Time lost at the end of the working day cuts the profits in twain.

11. One to-day is worth two to-morrows. Have you somewhat to do to-morrow, do it to-day.

12. Early to bed, and early to rise, makes a man healthy, wealthy and wise.

13. God gives all things to industry; then plough deep while sluggards sleep, and you will have corn to sell and to keep.

14. The mole and the angle-worm care not if the sky is cloudy.

15. Don't be proud; the corn-cob stopper doesn't hurt the milk in the jug.

G. Buy two cigars and three from the age of 50 to age of 70, 6 per cent. upon the money.

THREE CIGARS A DAY AT 5 CENTS EACH.

Principal.	Prin. & Int.
273.75	\$ 313.95
547.50	745.74
821.25	1,314.72
1,095.00	2,081.16
1,368.75	3,110.74
1,642.50	4,494.41
1,916.25	6,353.87
2,190.00	8,655.02
2,463.75	12,215.36
2,737.50	16,216.37

THREE CIGARS A DAY AT 10 CENTS EACH.

Principal.	Prin. & Int.
547.50	\$ 627.95
1,095.00	1,471.56
1,642.50	2,717.85
2,190.00	4,281.24
2,737.50	6,382.47
3,285.00	9,205.16
3,832.50	12,998.61
4,380.00	18,100.14
4,927.50	24,952.72
5,475.00	34,162.14

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16. Take the weather as it comes; growling at the sky is very poor farming.

17. Don't give up because of seven blue Mondays; it takes a great many strikes to drive the nail in the dark.

18. Be careful of promises; good signs of rain don't make the corn grow.

19. Let your actions be equal to your promises; don't take too big a bite when chopping at the sapling.

20. The ploughshare and the meal-bag are full brothers.

21. Bad luck is the man who stands with his hands in his pockets, waiting to see how it will turn out.

22. He that riseth late must trot all day, and shall scarce overtake his work at night.

23. Cigar smoke in the corn field may prevent the appearance of crows, but not of the sheriff.

24. If the farmer does not lift his mortgage it will lift him.

25. When a farmer allows products, that would pay his expenses at the village store, to decay, he puts an infant mortgage on his farm.

26. Sell when the price is fair; locking the stable door after the horse is stolen does no good.

27. Twenty tons of hay well fed is as valuable as twenty-five ill fed.

28. Thinking about a piece of corn adds five bushels to the acre.

29. Weeds in a corn field are like notes on interest at twenty per cent.

30. It is better for a farmer to eat salt on his potatoes instead of butter, if the latter is needed to pay an old debt at the village store.

31. Mud makes a soft bed for swine, but it is not the cheapest when the thermometer falls below zero.

32. The fifth rail of a fence is generally worth more than the other four.

33. It is not safe to be limited to one product, or to set but one bowl out when the sky is expected to rain larks. If your whole farm is devoted to wheat, and the season is bad, or the market poor, you have a poor show of larks.

34. A successful farmer feeds his land before it is hungry, rests it before it is weary, and weeds it before it is foul.

35. It is better to saw wood well, than to plead law poorly.

36. One hundred persons are willing to work hard, where ten are willing to husband what the hard work brings. Doing the latter makes men rich; lack of it keeps men poor.

37. The best preparation for wintering cattle is to summer them well.

38. Brain work is to the stock-breeder and dairyman what it is to the lawyer or preacher; and the more that each puts into his business the better.

39. Goods are never cheap enough, provided they can be bought cheaper. A good buyer hears and sees a great deal more than he tells.

40. Useless men are more costly than useless machinery. The sooner the former are discharged and the latter sold the better.

41. Shrewd buyers never trade with a merchant who is always selling out at cost.

42. The larger your account with trust, the sooner debt will take your farm into his hands. Debt is the jailer of credit.

43. A full purse and a brandy bottle rarely occupy opposite pockets in the same coat.

44. A good advertisement for a working man is a seat in church.

45. Rise by your own exertions. The building that needs props will be sure to fall.

46. Some men are unlucky; but too often the pipe and bottle are their closest friends.

47. The poor man that rises and calls his family three hundred and sixty-five days in the year, will have children called up by servants.

48. Character is the poor man's savings bank, wherein is locked the toils of his hands.

49. Handle your tools without mittens, a cat in gloves catches no mice.

50. Economy is of priceless value. The loss of the top hoop means the loss of the barrel.

51. Never take a holiday when it requires two weeks to repair the damage done to the body, and three to the purse.

52. Better the working man's health, than a rich man's idle wealth.

53. You cannot get honey if you are frightened at bees, nor plant corn if you are afraid of getting mud on your boots.

54. Capital, put into the ornamentation of buildings, is like wearing a shoe that pinches the foot.

55. Never envy a rich neighbor; his boys will drive your children's carriages.

56. Do everything at the proper time. Keep everything in its proper place. Use everything for its proper purpose. Never think any part of your work too trifling to be well done.

57. A fool and his money are soon parted when a lottery ticket is bought.

58. They that will not be counselled cannot be helped. If you will not hear reason, she will rap your knuckles.

59. Three removes are as bad as a fire. A rolling stone gathers no moss.

60. If you would be wealthy, think of saving as well as getting. A fat kitchen makes a lean will.

61. Silks and satins, scarlet and velvet, put out the kitchen fire.

62. Pride is as loud a beggar as want, and a great deal more saucy.

63. Be honest. A stove cold is better than a stove hot with stolen fuel.

64. **Maxims of Equity.**—Equity will not suffer a right to be without a remedy. Equity comes to the assistance of the vigilant not the negligent. Where there is equal equity, the law must prevail. Equality is equity. He who comes into equity must come with clean hands. He who seeks equity must do equity. Equity looks on that as done which ought to be done. He has the better right who is first in point of time. Equity imputes intention to fulfil an obligation.

65. Lost, somewhere between sunrise and sunset, two golden hours, each containing sixty diamond minutes. No reward is offered for they are gone forever.—*Horace Mann.*

UNDERDRAINING.

In order to raise a good crop we must comply with the natural conditions on which such expectation is reasonable. The main conditions are cultivation, drainage and fertilization. All that was necessary in the early settlement of the country was to prepare a seed bed by ploughing and harrowing, in order to raise a good crop. But this pernicious system of cropping—taking out of the soil all that was in it without returning anything to it, extending over a period of forty or sixty years—has so impoverished it as to reduce the yield to a point at which the tiller can barely make a living. The virgin fertility is exhausted, and can be restored only by the application of barnyard manure or commercial fertilizers, combined with thorough drainage. On each of these heads we offer a few remarks:

Benefits of Underdraining.—When underdraining is properly done, the following are among the benefits which it secures:

1. It promotes filtration and so renders the soil more porous, and hence it facilitates deep and thorough cultivation. When land is well drained, and the surface water is rapidly carried off by filtration, it quickly dries and in drying contracts. When it becomes wet again it expands, and the alternate contraction and expansion separates the particles of soil from one another, and thereby makes it loose and friable and more easily worked.

2. It prevents the baking of the surface soil. It does this by carrying off the surface water by filtration. If the surface water is carried off by evaporation mainly, the fine mud occasioned by the standing water becomes hardened as it dries and cracks. Underdraining, by promoting filtration, prevents this.

3. It promotes plant growth by (a) permitting the air to enter into the soil through the little passages the water has made for itself in its descent to the underdrains, and thus enabling the soil readily to extract from the air the nutrient necessary to plant growth, in the form of carbonic acid gas, ammonia, and nitric acid; (b) by lowering the table or line of saturation, and thereby deepening the foraging ground of plant rootlets; (c) by enabling vegetation better to withstand drought; (d) by promoting the fermentation of manures, and (e) by preventing the heaving of plants through the action of frost.

4. By the quick removal of superfluous moisture, it lengthens the season for cultivation, and thereby greatly facilitates the labor of tillage.

5. And because of these advantages it enables the farmer to obtain better returns for his outlay. Those farmers in this country who have underdrained their lands have found that the entire cost of doing so has been wholly repaid to them in from two to eight years by the increase obtained from their crops. We will not spend time to discuss the merits of brush, stone or wood—these all have been tried and found defective. Nothing but well burned tiles ought to be used. The smallness of the drain, as compared with

wood or stone, in which they can be laid, ease of handling and durability, not liable to choking if properly laid, and also, all things considered, the cheapest.

The Depth of Drains and their distances apart depends upon the character of the soil to be drained and the nature of the crops that are grown upon it. In this province they are generally sunk to three feet or a little less. The deeper the drain, the greater will be the area which it will drain, and the lower also will it reduce the level of the undrained water, or, as is said, the lower will it make the water-table. But in some kinds of clay it would be useless to sink below two feet. No hard and fast law as to depth can be allowed to govern. We must be governed by experience and adapt the depth to the nature of the soil to be drained. Drains should be deep enough to escape the action of frost. As to the distance apart at which drains should be sunk, there can be no fixed rule. The distance will depend on their depth, and their depth, as already said, will depend upon the openness or stiffness of the soil. For four feet drains forty feet, and three feet drains about 20 feet. This is what might be called thorough systematic draining, but at the present prices of agricultural products, more immediate and remunerative results might be obtained by following a plan somewhat different. Thus: Through a ten or twelve acre field run a trunk or main drain, as deep as the nature of the soil will warrant, in the lowest ground, regardless of bends or curves, strictly following the line of greatest depression, and then cut lighter drains from all the minor depressions or swales into the main drain. The lateral drains should start from the main drain not at right angles, but much as a branch leaves the tree, sloping, also not less than an inch and a half shallower than the main drain.

Cutting a Drain.—In cutting a drain the first thing to do is to draw along its course two or three furrows with the plow. Then the earth is to be lifted out with a shovel. This being done a subsoil plow may be used, which should be drawn by a strong horse walking in the furrow. The remaining portion must be dug by hand. In cutting the drain, care should be taken that it be kept as narrow as possible in order to avoid any unnecessary handling of earth. Where there is but little fall, and in wet soils, the entire length of the drain should be cut before the tiles are laid, as in this way the deposit from muddy water is kept out.

Grading the Bottom of the Drain Uniformly.—This is of the utmost importance, for if the bottom of the drain is not even and uniform, the flow will be hindered and silt will be deposited. Various methods are adopted to guide the digger in effecting this, but the simplest one is to pour in water and observe the places where the water slackens, and then make the necessary corrections. Some object to this practice because it tends to soften the bed that is to receive the tile, but on stiff clay it can do no harm, and at the same time it determines the level correctly.

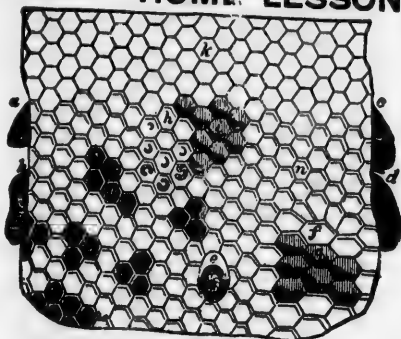
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HOME LESSONS IN BEE KEEPING.

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P, Q AND OTHER SIDE CELLS ARE QUEEN CELLS.

HATCHING.

The eggs remain unchanged for three or four days. They are then hatched, the bottom of each cell containing a small white worm, which floats in a whitish transparent fluid, which is deposited by the nursing bees, and by which it is probably nourished. It gradually enlarges until its two extremities touch, which forms a ring. It continues to increase during five or six days, until it occupies the whole breadth and nearly the length of the cell. The nursing bees now seal over the cell with a light brown cover. As soon as the larvæ is perfectly enclosed, it begins to line the cell by spinning around itself a silky cocoon. When this is finished it undergoes a great change, from the grub to the nymph or pupa state, and does not bear a vestige to its previous form. It has now attained its full growth, and the large amount of nutriment taken serves as a store for developing the perfect insect.

THE CULTURE OF BUCKWHEAT FOR BEES.

Buckwheat is valuable as a honey plant, as it can be made to bloom when there would otherwise be a dearth of flowers. We have found in our experimental beds that the Silver Hull variety has more flowers in the panicles, and yields more to the acre. The honey is dark, but is preferred to all other kinds by some people. It blooms from four to six weeks after sowing. It is safe in estimating that each acre of buckwheat sown within one and one-half miles of an apiary is worth \$100.

THE WORKER BEE.

The worker bee is an imperfect or undeveloped female bee, and forms the bulk of the population of a hive. A hive may be large or small—may be 15,000 or 50,000 workers, more or less, just according to the

season. The workers gather all the honey, pollen and bee glue, carrying the latter in little baskets on their thighs, the former in little sacks, sometimes called the first stomach. They secrete the wax from honey, feed the young, clean the hive, and, we might say, do all the work except lay the eggs. They are short-lived, on an average in the working season being only two months. But in winter, when they are idle, they sometimes live six months, or even longer.

THE DRONES.

The drones are the male bees of the hive, and their only use is to fertilize the queens. This always takes place when on the wing. The queen never leaves the hive except for the purpose of meeting the drones or lead of a swarm. The less the number of drones in a hive the better, as they are idlers and useless consumers of honey. The bees kill them off when swarming is over, or honey harvest fails. The drones have no stings.

BREEDING.

After the queen deposits the egg it takes an average of about twenty-two days before the worker comes forth a perfect insect. About twenty-five days are required from the laying of the egg to the hatching forth of the drone. The time for the development of the queen is only sixteen days from the laying of the egg.

SWARMING OF BEES.

It is generally supposed that a hive will not swarm until most of, if not all, the cells are so filled that the queen has no place to lay her eggs, and as this is not apt to happen unless bees are gathering honey freely, it is useless to look for swarms, particularly in the spring until warm, dry weather, as either cold or wet weather is unfavorable for the secretion of honey. Swarms seldom or never issue until at least one queen cell is capped over.

Those using the removable comb hive can by examining the frames every few days tell almost to a certainty when to expect a swarm, though occasionally bees will change their minds and permit the queen to destroy the royal cells.

No rattling of pans or any other noise is needed to make a swarm settle; in fact, I never was able to satisfy myself that throwing dirt or water among the bees ever had any tendency to make them settle, though others think it will.

The sooner bees are hived after clustering the better the chances are of their remaining with you.

Hives need no rubbing with leaves or salt to induce bees to go into them; be sure they are clean and free from cobwebs.

There is another thing very necessary, the lack of which has caused the loss of many a swarm of bees, and that is a cool hive.

After hiving a swarm put the hive on a ventilating bottom board; it should not be raised as bees are more inclined to remain in the hive if the ventilation is from below, and the entrance the only place they can get out. The hive should be well shaded, and in very warm weather sprinkling or syringing with water frequently will help keep the hive cool, and of course have a tendency to make the bees satisfied with their new home.

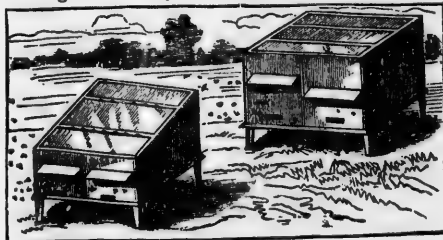
Occasionally a swarm will leave a hive when it seems as if all had been done to keep them that could be. If a swarm appears determined to "secede," put a box of honey on it, shut it up on its ventilating bottom board, and take it into the cellar, keeping it there four or five days; it might be well to give water by putting a dish full under the bottom board and pressing it up to the wire screen, then the bees can help themselves.

We never knew a swarm desert a hive after remaining in it four days (unless an accident happened such as melting down the comb); by that time there is a brood which bees will seldom leave.

It may be necessary to explain what a bottom board is; it is simply a bottom board with a six or eight inch square cut out of the center and a wire cloth tacked over it.

HOW TO DESTROY THE BEE MILLER.

To a quart of water, sweetened with honey or sugar, add a gill of vinegar, and set it in an open vessel on the top or by the side of the hive. When the miller comes in the night he will fly into the mixture and be drowned.



COMMON HIVES.

HOME LESSON IN BEE CULTURE.

1.—Fundamental Points in Bee Keeping. There are four fundamental points which render bee-keeping

a success, viz., the man, the movable comb hive, the season and the honey machine. The operator should be acquainted with and understand the nature and working of the bee to enable him to manage them properly. He should then have a hive that will answer all his needs in every department of bee culture, and in the making of hives should aim at simplicity. The honey machine is acknowledged by all bee-keepers to be the greatest improvement to the science since the invention of the movable comb hive, by the use of which we claim to double and even treble the quantity obtained by the old method.

2. What Constitutes a Swarm of Bees.—Every prosperous swarm of bees must contain one queen, several thousand workers, and a portion of the year a few hundred or even thousand drones. We will now proceed to describe the different bees which constitute a swarm, and the labors of each.

3. Description of the Queen.—The accompanying cut will illustrate the appearance of the most important member of this industrious colony.



THE QUEEN BEE.

The queen is the only perfect female bee in the colony, and hence the name of queen or mother bee. In form, she is longer than either of the other species. She is usually of a dark color, except the under side of the abdomen, which bears somewhat on the golden shade. All her colors are bright and glossy, and she has but little of the down or hair seen on the drones or workers. Her wings are short, reaching a little more than half way back. Her posterior is more pointed, and has the appearance of curving under more than that of the workers. She has a sting, but never uses it except in combat with a rival queen.

4. Their Affection for their Queen.—The queen is always treated with the greatest affection by the bees. If she is removed from them, the whole colony is thrown into a state of the most intense agitation. All labor is abandoned, and the bees run wildly over the comb, and rush from the hive in anxious search for their beloved mother. If they cannot find her, they return to their desolate home, and manifest, by their sorrowful tones, their sense of this great calamity, as

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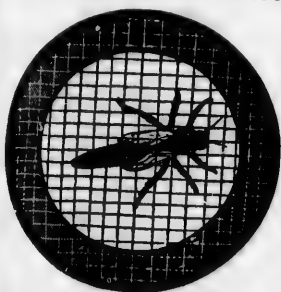
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no colony can long exist without the presence of the mother bee. you have complete control over, even to examine every comb and seeing every bee or queen in the hive

5. The Age of the Queen.—The average age of the queen is about three years. No one should be allowed to become older than that, as after that age they often become barren, or deposit eggs which produce only drones, and the colony soon wastes away without being replenished with worker broods.

THE WAILINGS OF THE QUEEN.

The queen has two notes; one of defiance, called piping; the other is a note of fear, a plaintive, pitiful



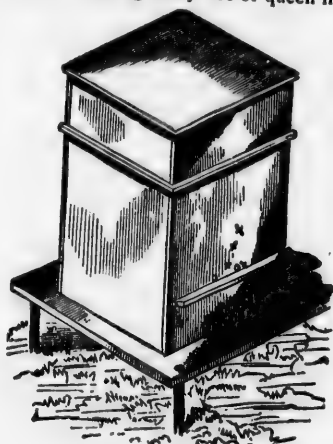
wail, mournful in the extreme, and lingering long in the memory when once heard. This mournful note is set up when removed from the hive, when seized by other bees to destroy her life, or when her colony are starving. When- ever this note is heard, turn not a deaf ear,

but immediately respond to the call, for there is something wrong. Rigidly examine the hive and remove the cause of complaint.

An unimpregnated queen is called a "virgin queen." They are capable of laying only drone eggs. A fertile queen is one which has mated with a drone, and is capable of laying eggs which may become either workers, drones, or queens. A barren queen is one who has passed the stage of laying eggs that will become either workers or queens, but continues to lay eggs which produce only drones. The period of fertility lasts from two to three years, and cannot be depended on longer safely. All such queens should be destroyed and fertile ones introduced, that the colony may not become extinct.

WILL BEE KEEPING PAY?

Of course it will. There is nothing that either men or women can engage in that will pay anywhere as well as bee culture; and there is nothing so well adapted for the farmers' sons and daughters as bee keeping. But to make the bee keeping business a success, you must go into it understandingly, and if you have not already the bees on hand, you will have to purchase a few colonies, and be sure to get Italians. If they are not in a movable comb they will have to be transferred. You will then have them in a hive that



THE MOVABLE COMB HIVE.

ENEMIES OF THE BEES.

Domestic fowls are destroyers of the bees, and also some birds from whose attacks, as they range in the fields at a distance from the hive, they cannot be protected. Among these is the titmouse, or blue tom-tit, which devours the bees, and feeds his young with them; and in winter is said to endeavor to force his way into the hive itself. Mice are often very troublesome, and even rats sometimes make their way into the hive. Slugs and snails often occasion much trouble; and especially in warm summer evenings the attacks of wasps and hornets are a great annoyance to bees. In all these cases care and vigilance can do much. Wasps' nests ought to be destroyed wherever met with; insects of all kinds, such as earwigs, woodlice, ants, etc., should be cleared away. In a word, the hives and stands for them ought to be kept as clean and neat as possible.

THE BEE MOTH.

The bee moth is one of the most destructive enemies of the bee. There are two broods of the moth each year; the first brood appears in May and June, and the second, which is the most numerous, appears in August. During these months this moth remains nearly hid, but at night it approaches the hive and the female seeks every opportunity to deposit her eggs in the hive. When the egg is deposited it soon hatches out, and the work of destruction begins and continues until it spins a cocoon and soon appears as a full-winged moth.

HOW TO DESTROY THE BEE WORM.

There is no use to try and keep bees without giving them proper attention. The domestic animals of the farm and home need daily feeding and attention and he who would be successful with bees must be as attentive as though they required daily feeding and watering. Every day in the cool of the morning the hive should be lifted to one side and moths and other worms detected should be taken out and cut in two with a sharp knife or other instrument. If this is done during the months of May, June and August, the swarms will continue thrifty and if it is a good season for honey, they will lay in a large supply.

ARTIFICIAL SWARMING.

This should be undertaken only when honey is abundant in the fields and the nights warm. To divide them have a hive at hand of the same size and pattern as your others. Then from four hives take each two frames and place them in the new hive, supplying those in the old with the empty frames. Then move a hive which you have not disturbed a rod or more away to a new place, and place the new hive where that one stood. This should be done in the fields. These will come in loaded to their old place and find it strange, and, as it contains stores and young bees hatching and eggs from which to rear another queen, they will at once proceed to rear one, and remain and work as contented as ever. This process may be repeated every two weeks until you have secured sufficient increase. The hives from which you take the combs, and the ones which you move to a new place, will lose so many bees that they will not think of swarming, but will energetically make up their loss, and be better than if nothing had been

taken from them. This is the safest of all ways to divide bees, and can be safely practiced by beginners.

FEEDING BEES.

Should the weather be favorable, every stock should be examined about the first of February. Should any one be in want of food it should be supplied. If in a box or gum hive, thin pieces of white sugar candy can be slightly pushed between the combs through an opening on the top. Honey or good sugar syrup should be given by means of a saturated sponge or comb, filled with honey placed at the opening on top, being careful to cover with a box to keep out outside bees. In movable frame-hives, frames of honey from other hives having it to spare is most convenient, and any required quantity can be given to the various feeders through the honey board.

REARING OF QUEEN BEES.

Premising that you use movable frames, make a number of small frames, as near four or five inches square as may be, to just fit inside one of your large ones. Fill with clean worker comb—that which has been frozen is the best, because the eggs of the moth will have been destroyed—and put the large frame containing these small ones in the middle of some stock with a fertile queen from which you wish to breed. Provide also some small boxes on the plan of a simple movable frame-hive, with loose top and rabbeting for the frames and just the size to accommodate three or four of them. When eggs have been deposited in the combs, set up one of your small boxes with them as a hive in miniature and confine it between a pint and quart of bees. They will immediately construct queen bees, and may then be opened. In this way any number of queens may be provided.

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FERTILIZERS AND DIFFERENT MANURES.

Fertilizers.—The necessity for the use of fertilizers arises out of the impoverishment of the soil, and any amount of mere working the soil by ploughing and harrowing or underdraining, to coax or compel the ground to give a paying crop is futile. Nature will do her part when man does his and not till then. When man restores to the ground by fair treatment the richness of which he has robbed her, treating her honorably and giving some recompense for her bounties, he will not fail of his reward.

What Manures Are.—Manures are substances which are applied to the soil to furnish it with materials for plant growth when these are not already in sufficient quantities. "The Plant Food of the Soil." Plants absorb from the soil a large number of substances which may very fittingly be called their food; but in practice nitrogen, phosphoric acid and potash are alone to be considered, because the other elements of plant food are usually in the soil in quantity sufficient to sustain a vigorous plant growth, and also because nearly all manures that contain these three elements contain the other elements as well. Of manures that are used in practical farming, farmyard manures and commercial fertilizers are the two principal classes, but in addition to these, composts and green manures are extensively used. Manures are also classified as being general and special.

Farmyard manure consists of the dung and urine of the animals that are fed on the farm and of the litter that has been used as bedding, which is mixed up with it. Commercial or artificial fertilizers are composed of various ingredients obtained from natural products, but prepared by special processes of manufacture—sometimes mechanical, sometimes chemical, sometimes both mechanical and chemical. These manures, in order to save the cost of carriage, are sold in concentrated form.

Farmyard Manure.—It is upon the farmyard manure that the farmer must principally rely for maintaining and restoring the fertility of his soil. Farmyard manure contains all the most valuable elements of plant food. No other manure benefits a soil so much, both chemically and mechanically, nor can any other be applied to all sorts of land with such positive certainty of beneficial action. Moreover, it is peculiarly durable in its effects.

Its Quality.—The quality of farmyard manure depends upon the kind, age and condition of the animal producing it; upon the food and accommodation given to the animal and the amount and quality of the litter supplied to it. Also upon the treatment bestowed on the manure during its accumulation and upon its after treatment.

Differences in Farmyard Manure.—Manure obtained from matured animals is more valuable than that produced by young and growing stock. In all animals the

phosphates of their food are used in the production of bone, while other salts and the nitrogen of their food go to make muscle, flesh and fat. Hence in young and growing animals since their bones and muscles are continually becoming larger, a greater use is necessarily made of these food constituents than in mature animals, whose food is needed only to supply waste and not to build up bone and muscle; and hence also these constituents are more or less wanting in their excrements. So that it follows that this manure is lacking in phosphates and nitrogen. In a similar way it may be shown that the manure obtained from lean animals is less valuable than that produced by animals already fully developed, and not needed to form new flesh. Similarly the manure obtained from beef-making stock is more valuable than that produced by milk-producing stock. The plant food in the manure must all come from the food of the animal making it.

Importance of Good Floors in Stalls.—When manure is collected from stables in which the animals are tied in stalls, unless the floors are well made (as for example with some kind of concrete) much of the liquid portion of the manure will be lost. This liquid portion is the most valuable of farmyard manure, for the reason that the elements of plant contained in it are in a soluble condition and thus readily available to support plant growth.

Importance of Litter.—When manure is made in box stalls, or in covered yards, it is usually of a good quality, because the solid and liquid portions of the manure are well intermixed with litter, the litter preventing the liquid portions from being lost. Manure made in open yards is liable to be injured by the leaching effects of rain, unless the building adjoining has eavetroughs and the bottom of the yard be concave and retentive.

Quantity of Litter to be Used.—While there should be always sufficient to absorb all the liquid manure produced, more than this is injurious, since it tends to retard fermentation.

Commercial or Artificial Fertilizers.—Besides the manure that is produced in the farm-yard, there are numerous other manures provided from various natural products by means more or less artificial and intricate. These may be called commercial or artificial fertilizers. They are obtained from animals, vegetables and minerals.

Animal Artificial Fertilizers.—Of the artificial fertilizers obtained from animal products, guano, blood, bones, the refuse flesh of animals killed for food, and fish refuse are among the chief.

Guano is the accumulated excrement of the myriads of sea birds that for long ages have frequented certain sea coasts and sea islands, especially on the south-western coasts of South America. The best guano has been found

off the coast of Peru, one reason being that that region is destitute of rain, and hence the guano found there has not been exposed to the leaching effects which rain produces. The supply of natural guano is now pretty well exhausted.

The chief ingredients of value in guano are ammonia and ammonia forming compounds, and certain phosphates. The quantity of the best guano to apply to an acre is from 200 to 500 pounds. Its stimulating effects, as a top dressing are very marked.

Blood is largely used as a manure, but chiefly with other fertilizers. Mixed with bone-dust or phosphatic guano, it forms an excellent fertilizer for turnips. It contains a large amount of nitrogen.

Bone is made up of two sorts of substance, viz.: mineral, or earthy matter, and animal matter. The earthy matter comprises about two-thirds of the whole, and consists principally of phosphate of lime, and it is to this constituent in their composition that bones mainly owe their value as a fertilizer, since it furnishes phosphoric acid, a very necessary element of plant food. But the animal matter of bones is also valuable as a fertilizer, since it furnishes the soil with nitrogen, another very necessary element of plant food.

Bones are most commonly used for manures in the form of bone-dust, bone-ash, and bone super-phosphate of lime.

Bone-dust or bone-meal is obtained by crushing or grinding bones to a kind of coarse powder. The finer the meal the more rapid is its action as a manure. The application of bone-meal to light lands or to old pastures gives most marked results.

Bone-ash is what is left after bones are burnt, which process deprives them of their animal matter, and, therefore, of their nitrogen. It is chiefly used in the manufacture of the super-phosphate of lime.

Bone super-phosphate of lime (generally called "bone super-phosphate") is formed by treating bone-dust (or bone-dust and bone-ash together, or bone-ash alone) with sulphuric acid. It is applied at the rate of from 200 to 500 lbs. per acre.

Fish refuse is often used as a manure, generally in a prepared state, but sometimes it is applied directly to the land. *Fish guano* is a fertilizer manufactured from the refuse of oil-pressing and fish-curing establishments by treating it when under pressure with sulphuric acid. It does well as a manure for wheat and some other crops.

Vegetable Artificial Fertilizers.—The leading artificial fertilizer obtained from a *vegetable* source is wood ashes.

Wood ashes are rich in potash, and it is for this reason that they are so valuable as a manure. They will benefit almost any kind of soils that are dry. They are very useful to clays, since they render them less stiff and more workable, but they are especially useful to light soils, since they furnish these soils with the potash in which they are naturally deficient. Their effects are most marked on grass

lands, and on wheat, potatoes, turnips, and fruit trees. When unleached, they may be applied at the rate of 100 to 200 bushels per acre, if placed on or near the surface, and when leached, in much larger quantities.

Mineral Artificial Fertilizers.—Of the *mineral* artificial fertilizers, lime, gypsum, marl, salt, and the various phosphates, are the chief; but besides these, there are also several mineral fertilizers which are valuable for the *nitrogen* which they afford.

Lime exerts a four-fold influence as a fertilizer:

(1) It is a direct source of plant food; that is, it supplies the growing plant with an element it needs, namely, the chemical substance called calcium.

(2) It acts upon the organic matter of the soil (that is, the decayed vegetable matter), neutralizing the "sour" organic acids that it contains, and rendering the soil "sweet" and capable of sustaining healthy plant life.

(3) It unlocks the stores of inert mineral matter in the soil, especially the potash and soda, and renders them available as plant food.

(4) It ameliorates the texture of soils that are too stiff; that is, makes them more easy to be plowed, harrowed, rolled, etc.

Lime improves the quality of grain, grasses, and other crops; hastens their maturity, destroys insects, and checks the growth of moss. While it improves the texture of strong clays it also increases the capacity of light soils for absorbing and holding moisture.

The amount of lime used may vary from one ton per acre to ten tons. One or two tons is an average dressing. A deep soil requires a heavier dressing than a shallow one, and a sandy soil less than a heavy clay. Soils rich in organic matter (that is, decayed vegetable matter) require more than soils poor in the same. A small amount will benefit those that are undrained. Small dressings and frequent are preferable to larger ones infrequently applied. The lime intended as manure should be harrowed in rather than plowed in.

Lime is used both in its natural condition and after being burnt. *Burnt lime* or "*quick lime*," as it is called, is much more active in effecting the changes described in (2) and (3) above than *natural lime*, and, indeed, is the form in which lime is generally used in agriculture. But since on some soils quick lime will do much more harm than good, it should always be used with judgment and caution.

Gypsum (sulphate of lime) is largely used as a fertilizer, especially for clover, grasses, turnips, potatoes, peas and corn. Its value as a fertilizer is largely due to its action in fixing carbonate of ammonia and conveying it to the roots of plants. It should be sown on young crops when they are well above the ground and are moist with rain or dew. The proper quantity per acre for clover and peas is about 100 lbs. On corn and turnips it is sufficient simply to dust it along the rows.

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Marl, which is the natural mixture of clay and carbonate of lime, is abundant in some parts of Ontario. It varies much in color, being blue, grey, red and yellow. The blue and yellow kinds are the most valuable. Marl will be found useful on all soils on which lime may be beneficially used.

Salt is now extensively used as a manure. It tends to stiffen and brighten the straw of cereals, and to destroy insect life. Its effects are most beneficial in the growth of wheat and mangels. When sown upon wheat, its effects are improved by mixing nitrate of soda with it. When used upon ground intended for roots, it should be sown just before the drills are made. It may be applied at the rate of from 200 to 500 lbs. per acre.

"*Phosphates*" is a general term applied to several compounds, all of which are sources of phosphoric acid, and therefore all helpful in sustaining healthy animal life; as, for example, the phosphate of lime, the phosphate of soda, the phosphate of potash, and the phosphate of magnesia. But by far the most important of these, from a farmer's point of view, is the phosphate of lime, and therefore when the word "phosphate" is used without any qualification, phosphate of lime is generally understood.

Phosphate of lime is found in great abundance in the bones of animals, as has been said; but it is also the chief constituent of some widely distributed minerals, as, for example, *apatite*, *phosphorite*, and *coprolites*. It occurs in small quantities in all fertile soils. Next to potash and the nitrogenous elements of the soil, it is the plant food most largely drawn upon in the growth of cereals.

In Canada the word "phosphate," when spoken with reference to farm operations, generally means the mineral *apatite*, for this mineral is popularly called by that name. The value of *apatite* as a fertilizer is due to the phosphate of lime of which the mineral is principally composed. Our Canadian "phosphate" (that is, *apatite*) does not dissolve easily in water. Hence, to make it efficacious as a manure, it must be ground to a very fine powder before being applied to the soil, since in a powdered state it dissolves much more readily.

Mineral "superphosphate" (that is, *superphosphate of lime*) is produced by treating *apatite*, *coprolites*, or other mineral phosphates, and bone-ash, with sulphuric acid. The real value of mineral superphosphate is much the same as that of bone superphosphate, but the price of the former is often much higher.

Nitrogenous Fertilizers.—The two principal nitrogenous fertilizers are nitrate of soda and sulphate of ammonia.

Nitrate of Soda is a natural product and is found very abundantly in Chili and Peru, whence it is known as Chili saltpetre or Peruvian saltpetre.

Sulphate of Ammonia is wholly an artificial manure, and is produced by treating ammonia with sulphuric acid.

Both of these manures owe their value as fertilizers to the nitrogen which they contain. They are found especially useful when applied as a dressing to cereals and root crops after spring growth has commenced. The quantities to be applied per acre are about 150 lbs. of the nitrate of soda and 100 lbs of the sulphate of ammonia.

Application of Commercial or Artificial Fertilizers.

—Regarding the application of artificial fertilizers, the following observations are of value:

1. In using fertilizers of a soluble character, (as for example, guano, blood, fine bone-dust, bone superphosphate), the aim should be to manure the plant rather than the soil. They should therefore be applied on the surface or drilled in with the seed.

2. Fertilizers not readily soluble, (as mineral phosphates, marl, lime, etc.) produce the best results when mixed with the soil, the reason for this being that *time* is required in order that the plant food ingredients contained in these fertilizers may be changed from an unavailable or dormant condition to an available condition.

3. Top-dressing with artificial fertilizers is to be recommended chiefly for crops in the grassy stages of their growth. For the foregoing suggestions on manures we are mainly indebted to Prof. Mills, Ontario College. The following is a quotation from Mr. Angers, late Minister of Agriculture of the Dominion of Canada:

"Prof. Wiley points out the fact that nineteen pounds per acre of phosphoric acid are absorbed by grain, and twelve and a half pounds per acre are absorbed annually by the grass crop. This constituent element of the proper plant food, one of the chief essentials to all vegetable and animal life, must be restored to the soil unless the latter is to be utterly exhausted, and the agriculturist should understand that his farm is not a bank on which he can draw at pleasure, but a laboratory which can only do its work well when the needed supply of material is forthcoming. Exhaustion of this nature can only be remedied by introducing artificially the material that has been abstracted from the soil. If a thorough knowledge of the need of phosphate for the soil prevailed, and practical application of such knowledge were more general, it would lead to the manufacture of this important fertilizer on a large scale at a reduced cost, and so enable the farmer to purchase in larger quantities with the assurance of receiving his money back with interest in the increase of his crop. I am informed that the cereals and the grass crop of Canada extract from the soil annually an average of 235 million pounds of phosphoric acid, equal to 117,972 tons of 2,000 pounds each. Supposing that one-half only were returned to the soil in the stable manure, there will still be a deficit of 59,000 tons of phosphoric acid, which must be returned in order to maintain a normal condition of fertility, and as the barnyard is insufficient to meet the demand, we must have recourse to commercial fertilizers or suffer."

PROFITABLE DAIRYING.

For the following valuable suggestions on Dairying we are indebted to Prof. Mills:

Importance of Dairying.—Dairying has become one of the most important branches of farming in this country. The time for profitable wheat growing in the older provinces of the Dominion is past. We can, however, raise first-class animals—cattle, sheep, hogs and horses, and by liberal manuring and proper cultivation of the soil, we can grow good crops of grass, hay, oats, peas, barley, turnips, mangels, Indian corn, rape, etc., to feed these animals. Hence we may profitably devote our attention, not only to the raising of sheep, hogs, horses, and beef cattle, but also to the keeping of cows for the production of milk, cheese, and butter. Many farmers have already proved that dairying is a profitable branch of farming, and much more can be done in the future than has been even thought of in the past.

Conditions Favorable to Dairying.—These are (1) plenty of good, pure water at all seasons of the year; (2) soil that will produce abundance of food suitable for cattle, that is, pasture, hay, coarse grain, and roots or Indian corn; (3) shelter, such as scattered trees or an open grove, to protect cows in hot weather; and (4) buildings, to keep them warm and comfortable in fall, winter and early spring.

Butter or Cheese.—In the neighborhood of cities and large towns, a profitable trade is done in selling milk fresh from the cow; but in most places both dairymen and farmers use the greater part of their milk in making butter or cheese; and which of the two (butter-making or cheese-making) is the more profitable in any particular locality, depends very much upon circumstances. Where dairying is made a specialty, so that the milk of a large number of cows can be got within a short distance from the factory, more money can, as a rule, be made out of cheese than out of butter, in Ontario; but in localities where mixed farming (grain-growing, stock-raising, and dairying) is carried on, and the skim milk is needed for calves and pigs, butter-making is, generally speaking, more satisfactory and profitable than cheese-making.

Cows for the Dairy.—Profitable dairy cows use their food so as to make milk rather than flesh; and it is a great mistake to keep, for dairy purposes, any cow which is not a good milker. Some kind of record of the milk given by cows should be kept, and those which fall below the standard in quantity of milk, quality of milk, or the length of the milking period should be disposed of as soon as possible, and others put in their place. A good dairy cow, with proper food and care, should give milk for at least ten months of the year, and during that time should produce not less than 6,000 lbs. of good milk, $9\frac{1}{4}$ to 10 lbs. of which would make one pound of cheese, and 25 to 28 pounds of which when properly set and looked after, would yield cream enough to make a pound of butter.

Of course, great richness of milk, as is the case of that from some Jerseys, makes up for a deficiency in quantity, especially when the cow is kept for making butter; and an unusually large quantity, such as is given by some Holsteins, makes up for a slight deficiency in butter fat, especially when the milk is used for making cheese.

Some kinds and breeds of cows, as Ayrshires, Holsteins, Jerseys, Guernseys, Canadians, and Shorthorn grades of certain families, seem specially adapted to the production of milk, but two or three things should be borne in mind: (1) that there are poor milkers among cattle of every breed; (2) that for the dairy, it matters little what the breed or pedigree of a cow may be, so long as she gives a large quantity of good milk, in proportion to the food she consumes; and (3) that, whatever breed is chosen, a herd of good dairy cows can be got and kept only by careful selection, liberal feeding, and good management.

Feeding and Care of Cows.—Cows should be well fed at all times; comfortably housed in the cold weather of fall, winter, and spring; and invariably treated with the greatest kindness. Scanty or irregular feeding never pays. A certain amount of food is always necessary to support the animal system, and profit can come only from what is fed over and above that amount. Hence, during the milking period at least, cows should have abundance of wholesome, nourishing food—all that they will eat up clean. Shelter of some kind from the direct rays of the sun in hot weather, and comfortable (not necessarily expensive) stabling in cold weather, are also of much importance, especially the latter, because the exposure of a cow to cold rains in the fall, and to cold winds or frost in winter, or any other season of the year, invariably results in injury to the animal and loss to the owner. Kind and gentle treatment is likewise an important item in the management of cows, for experience has clearly proved that when a cow is made to run, is hunted by a dog, or is kicked, beaten, or otherwise excited by those in charge of her, the invariable result is that she gives less milk, and what she does give is of inferior quality.

Further, in feeding dairy cows for profit, three things are necessary: (1) that they have abundance of succulent food during the milking season, and, if possible, a small allowance of bran, or chopped peas and oats, or ground oats, peas and barley, or some other mixture of different kinds of meal; (2) that a supply of green fodder be provided, for use in case pasture becomes scarce in July, August or September—say an acre of oats and vetches, or peas and oats (sown at different times), and an acre and a half of Indian corn, for 15 cows; (3) that, during winter, the cows be fed and cared for in such a way as to keep them in good health and gaining a little in flesh; because cows that are well fed in winter give milk for a longer period

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and in larger quantity during the following summer than cows which, from lack of proper and sufficient food, or other causes, have been allowed to run down in flesh and lose the vigor which they had on entering their winter quarters.

Water for Cows.—No dairyman can be successful unless he has an abundant supply of water for his cows at all seasons of the year—water which is pure, easily accessible to the cows in summer, and of moderate temperature (not ice-cold) in winter. Cows should have all the water they will drink, and it ought to be pure, because impure water is bad for the cow, lessens the value of her milk and its products, and is injurious to the health of those who use the milk, the cheese, or the butter.

Salt for Cows.—It is not enough to salt milch cows occasionally, even once or twice a week; nor is it sufficient to give them rock salt to lick. They should have access to ordinary granular salt every day, be allowed to take all they want, and have a little mixed with the cut feed, meal, etc., which they get in the stable. It has been proved by experiment that cows, when salted only once a week, will generally give from 14 to 17 per cent. more milk than when they have free access to salt every day, and the milk from irregularly salted cows is not so good as that from cows which have a constant supply of salt. It sours sooner, and is otherwise inferior in quality. Hence the importance of placing salt in stables, and under cover in fields, in such a position that milch cows can have access to it at all times, is very evident.

Milking.—Each cow should, as far as possible, be milked by the same person, and at the same hour night and morning. Much milk is lost by frequent changing of milkers, and by irregularity as to time. Before milking, the cow's udder should be well brushed, and then rubbed with a damp cloth. Afterwards, the milker should wash his hands and do the milking as quickly and thoroughly as possible. Some insist that milking should be done with dry hands, and that every milker should keep a little water by him, and be required to wash his hands regularly after the milking of every two or three cows.

Milk absorbs offensive odors very quickly, and is much injured in quality when kept in bad air for even a short time. Hence milking should not be done in foul-smelling yards or stables, but only where the air is pure.

Further, it is important that milk be strained immediately after it is drawn from the cow, in order that all solid impurities may be at once removed before they dissolve and become incorporated with the milk.

Milk Vessels.—All milk and cream vessels should be thoroughly cleansed before they are used—well washed, scalded with boiling water, and exposed to fresh air for several hours. The milking pails used should be made of tin.

Setting Milk.—Milk is very often set in shallow pans and allowed to stand for some time in a milk-house.

It is, however, generally much better to put it into deep cans, say, 8½ inches in diameter by 20 inches deep, and to set these cans in water, as cold as can be got, with the addition of some ice, if possible. Generally speaking, about 18 per cent. more cream can be obtained from milk in deep cans, set in ice-cold water, than from the same milk in shallow pans, set in the ordinary way, without either ice or water; also, by the former method the skimmed milk is kept perfectly sweet, and is thus in a much better condition for the use of calves and pigs.

The water-tank for the milk cans should be close to a well or spring, protected from the heat of the sun, and away from all smells which might taint the milk. When it is possible, a very good (perhaps the best) way is to construct a sort of open box in the water, near the source of a spring; or in a running stream. If well-water, without ice, is used, it should be changed twice, if possible, for each setting, in order to keep the temperature low enough to separate the cream from the milk—to make it all, or nearly all, rise to the top. A very good plan is to let the fresh cold water from the well enter at the bottom of the tank, and force the partially warm water out over the top. The nearer the water is kept to 40° or 45° Fahrenheit, the better.

It is important that the milk be set promptly, while it is at or above 90° Fahrenheit. If it is allowed to cool below that temperature, some warm water (150° to 180° Fahrenheit) should be added to the milk, to raise it above 90°, before the cans are set in the cold water. Otherwise, there will not be a complete separation of the cream, and a good deal of it will remain in the skimmed milk.

Care of Cream.—Cream should always be removed from milk before the milk becomes sour. All the cream for each churning should be put in one vessel and kept cool, so that it may remain sweet till the time when it is to be soured for churning; and it should be stirred two or three times a day, especially when fresh cream is added. In the hot weather of summer, it should not, as a rule, stand more than three days before churning, and no fresh cream should be put into the vessel within from twenty to twenty-four hours of churning. In order to prepare it for churning, a little ripe cream (that is, cream which has been soured by being kept in a warmer place) should be added to the sweet cream. The cream should then be kept at a temperature of from 60 to 70 degrees (the higher temperature in cold weather), and stirred several times during twenty to twenty-four hours, or till it has reached the right degree of sourness for churning. If no sour cream is added, it will take a longer time, and perhaps a little more warmth, to get it ready for the churn.

A good deal of butter is frequently lost by churning together cream from different vessels, and of different degrees of sourness. This loss arises from the fact that, at the ordinary churning temperature, sour cream gives up its butter in less time, and much more completely than sweet cream.

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DEPARTMENT.

FOURTH EDITION

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~~Jan in big snow~~

16 snow all day

18 26 below

19 38 below

20 frozen water, deep pouring

21 Big storm wind south east rain stop

22 hail rain lightning snow S to

24 Sunday blowing over weather

25 clear & north to west snow 7 below

26 very cold N E winds very cold

3 38 below

Feb 1 zero weather

2 very cold and blowing S to N

Feb 26 rain stop to days

March 2. fine bright sunny day windy

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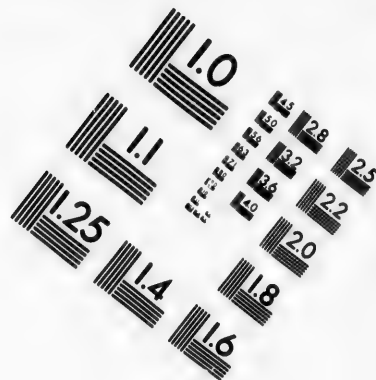
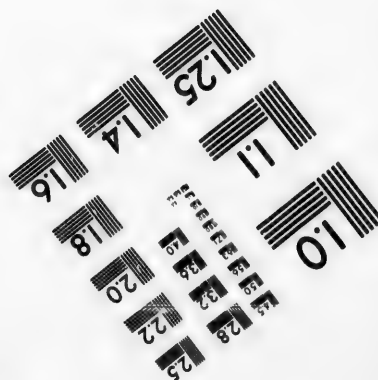
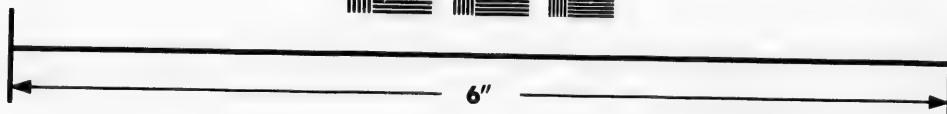
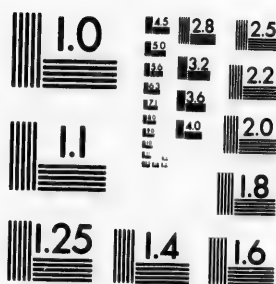


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GENERAL RECORD.

297

GRAIN AND HAY ACCOUNT.

SEED.							HARVEST.							
DATE.	No. of Acres Sown.	Kind of Grain Sown.	Bush. per Acre.	No. of Bush. Sown.	PRICE.		AMOUNT.		CULTIVATION.	When Harvested.	Bush. per Acre.	Total No. of Bush.	REMARKS.	DATE.
					\$	cts.	\$	cts.						

GRAIN AND HAY ACCOUNT.

299

Harvest.

REMARKS.

DATE.

SALES.

TO WHOM SOLD.

Kind of
Grain
Sold.

No. of
Bushels
Sold. Quality.

PRICE.

Am't Rec'd.

\$ cts. \$ cts.

DATE.

ON HAND.

Kind of
Grain
on hand.

Bushels
on
hand.

PRICE.

AMOUNT

\$ cts. \$ cts.

301

SALES.

ON HAND.

DATE:

TO WHOM SOLD.

Kind of Grain Sold.

No. of Bush's Sold.	Quality.
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3	3
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99	99
100	100

PRICE.

Am't Rec'd.

8 cto. 8 cto.

DATE.

Kind of Grain on hand.

**Bushels
on
hand.**

PRICE

AMOUNT.

3 etc. 3 etc

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 1 check \$500
 got one dollar from me

1 day: 12.81
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2.00

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PURCHASE ACCOUNT.

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				Dolls.	Cts.		
Jan	3	settled bal	to feb	2	50		2
	3						3
	10	day			2		10
	11	day			2		11
	13						13
	15						15
	18						18
	20						20
Feb	1						1
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	8						8
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	29						29
	30						30
	31						31
Feb	1	settled in feb	got 83	50	82		1

303

[illegible]

PURCHASE ACCOUNT.

Month.	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID	Date
				Dolls.	Cts.		
Mar	5						
	6						
	16	1	day				

PURCHASE ACCOUNT.

305

Amount.			Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		
Dolls.	Cts.	PAID				Dolls.	Cts.	PAID.

PURCHASE ACCOUNT.

Month.		Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID	Da
					Dolls.	Cts.		

PURCHASE ACCOUNT.

307

Amount.			Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		
Dolls.	Cts.	PAY				Dolls.	Cts.	PAID.

PURCHASE ACCOUNT.

Month.	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		Month.
				Dolls.	Cts.	

PURCHASE ACCOUNT.

309

Amount.		PAID	Month.	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID.
Dolls.	Cts.						Dolls.	Cts.	

PURCHASE ACCOUNT.

Month.	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID
				Dolls.	Cts.	

PURCHASE ACCOUNT.

311

Amount.			Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		
Dolls.	Cts.	PAID.				Dolls.	Cts.	PAID.

PURCHASE ACCOUNT.

Month.		Amount.		Month.
Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Dolls. Cts.	PAID

PURCHASE ACCOUNT.

313'

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID		Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Dolls.	Cts.	PAID.

PURCHASE ACCOUNT.

Month.	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		Month.
				Dolla.	Cts.	

PURCHASE ACCOUNT

315

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.		Dolls.	Cts.	PAID.

PURCHASE ACCOUNT.

Month.		Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID	D
					Dolls.	Cts.		

PURCHASE ACCOUNT.

317

Amount.

Month.

Amount.

Dolls.	Cts.	PAID	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Dolls.	Cts.	PAID.
--------	------	------	-------	--------------------	---------------------	--------	------	-------

PURCHASE ACCOUNT.

Month.		Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		PAID	Month.	D.
					Dolls.	Cts.			

PURCHASE ACCOUNT.

319

Amount.			Month.					Amount.		
Dolls.	Cts.	Paid	Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Dolls.	Cts.	PAID.		

PURCHASE ACCOUNT.

Month.		Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.	Amount.		P.	Date.
					Dolls.	Cts.		

PURCHASE ACCOUNT.

321

Amount.			Amount.		
Dolls.	Cts.	PAID.	Dolls.	Cts.	PAID.
Date.	OF WHOM PURCHASED.	ARTICLES PURCHASED.			

SALES ACCOUNT.

Month.		ARTICLES SOLD.	TO WHOM.	Amount.		PAID.
Date.				Dolls.	Cts.	

SALES ACCOUNT.

323

Amount.
Dolls. Cts. PAID

Month.

Date.

ARTICLES SOLD.

TO WHOM.

Amount.

Dolls. Cts.

PAID.

SALES ACCOUNT.

Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.		Month.
				Dolls.	Cts.	

SALES ACCOUNT.

325

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID		Date.	ARTICLES SOLD.	TO WHOM.	Dolls.	Cts.	PAID.

SALES ACCOUNT.

Month.		ARTICLES SOLD.	TO WHOM.	Amount.		PAID	Month.	D
Date.				Dolls.	Cts.			

SALES ACCOUNT.

327

Amount.			Month.	Amount.		
Dolls.	Cts.	PAID.	Date.	ARTICLES SOLD.	TO WHOM.	Dolls. Cts. PAID.

SALES ACCOUNT.

Month.		ARTICLES SOLD.	TO WHOM.	Amount.		Month.
Date.				Dolls.	Cts.	PAY

SALES ACCOUNT.

329

Amount.			Month.	Amount.		
Dolls.	Cts.	PAID	Date.	ARTICLES SOLD.	TO WHOM.	Dolls. Cts. PAID.

SALES ACCOUNT.

Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.		PA	month.	De
				Dolls.	Cts.			

SALES ACCOUNT.

331

Amount.			Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.		
Dolls.	Cts.	PAID.					Dolls.	Cts.	PAID.

SALES ACCOUNT.

Month.		ARTICLES SOLD.	TO WHOM.	Amount.		PAID	Month.
Date.				Dolls.	Cts.		

SALES ACCOUNT.

333

Amount.			Month.	Amount.		
Dolls.	Cts.	PAID	Date.	ARTICLES SOLD.	TO WHOM.	Dolls. Cts. PAID.

SALES ACCOUNT.

Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.	Month.
				Dolls. Cts.	PAID

SALES ACCOUNT.

335

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID	Date.	ARTICLES SOLD.	TO WHOM.		Dolls.	Cts.	PAID.

SALES ACCOUNT.[illegible]

SALES ACCOUNT.

337

Amount.		Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.		
Dolls.	Cts.	P.				Dolls.	Cts.	PAID.

SALES ACCOUNT.[illegible]

SALES ACCOUNT.

339

Amount.			Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.		
Dolls.	Cts.	PAID					Dolls.	Cts.	PAID.

SALES ACCOUNT.

Month.		ARTICLES SOLD.	TO WHOM.	Amount.		Month.
Date.				Dolls.	Cts.	

SALES ACCOUNT.

341

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID	Date.	ARTICLES SOLD.	TO WHOM.		Dolls.	Cts.	PAID.

SALES ACCOUNT.

Month.	Date.	ARTICLES SOLD.	TO WHOM.	Amount.	Month.
				Dolls. Cts.	PAID.

SALES ACCOUNT.

343

Amount.			Month.				Amount.		
Dolls.	Cts.	PAID.	Date.	ARTICLES SOLD.	TO WHOM.		Dolls.	Cts.	PAID.

SALES ACCOUNT.

1 Month.

Amount.

Month.

Date.

ARTICLES SOLD.

TO WHOM.

Dolls. Cts.

PAID

D

SALES ACCOUNT.

345

Amount.

Month.

Amount.

Dolls.	Cts.	PAY	Date.	ARTICLES SOLD.	TO WHOM.	Dolls.	Cts.	PAID.
--------	------	-----	-------	----------------	----------	--------	------	-------

POULTRY AND EGG ACCOUNT.

Month.	Date.	POULTRY	EGGS	Price	POULTRY	Price	Amount.		Date.
		RAISED.	SOLD.	per Doz.	SOLD.	per lb.	Dolla.	Cts.	

POULTRY AND EGG ACCOUNT.

347

Price Amount.
per lb. Dolls. Cts.

Date.

POULTRY

RAISED.

EGGS

SOLD.

Price

per Doz.

POULTRY

SOLD.

Price

per lb.

Amount.

Dolls. Cts.

POULTRY AND EGG ACCOUNT.

		POULTRY	EGGS	Price	POULTRY	Price	Amount.		Month.	Date.
Month.	Date.	RAISED.	SOLD.	per Doz.	SOLD.	per lb.	Dolls.	Cts.		

POULTRY AND EGG ACCOUNT.

349

Price			Amount.		Date.	POULTRY		EGGS		Price		POULTRY		Price		Amount.	
per lb.	Dolls.	Cts.				RAISED.		SOLD.		per Doz.		SOLD.		per lb.	Dolls.	Cts.	

DAIRY ACCOUNT.

		No. of		BUTTER	BUTTER	MILK	Price.	Amount.		REMARKS.	
Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.		Dolls.	Cts.		Date.

DAIRY ACCOUNT.

351

REMARKS.	No. of	Date.	COWS.	BREED.	BUTTER MADE.	BUTTER SOLD.	MILK SOLD.	Price.	Amount.		REMARKS.
									Dolls.	Cts.	

DAIRY ACCOUNT.

		No. of		BUTTER	BUTTER	MILK	Price.	Amount.		REMARKS.
Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.		Dolls.	Cts.	

Month. L

DAIRY ACCOUNT.

353

REMARKS.	No. of		BUTTER		MILK	Price.	Amount.		REMARKS.
	Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.	Dolls. Cts.	

DAIRY ACCOUNT.

		No. of		BUTTER	BUTTER	MILK	Price.	Amount.	REMARK
Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.		Dolls. Cts.	

DAIRY ACCOUNT.

355

Count.	REMARKS.	No. of	BUTTER	BUTTER	MILK	Price.	Amount.	REMARKS.
Cts.	Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.	Dolls. Cts.

DAIRY ACCOUNT.

				BUTTER	BUTTER	MILK	Price.	Amount.		REMARK
Month.	Date.	COWS.	BREED.	MADE.	SOLD.	SOLD.		Dolls.	Cts.	

Month. D

DAIRY ACCOUNT.

357

[illegible]

FRUIT ACCOUNT.

		Kind of		Estimated	Bushels	Bushels	Price		Amount.		
Month.	Date.	TREES.	FRUIT.	VARIETY.	No. of Bushels.	Sold.	Consumed.	Waste.	per bu.	Dolls.	Cts.

FRUIT ACCOUNT.

359

Price	Amount.		Kind of			Estimated	Bushels	Bushels	Price		Amount.			
r bu.	Dolls.	Cts	Month.	Date.	TREES.	FRUIT.	VARIETY.	No. of Bushels.	Sold.	Consumed.	Waste.	per bu.	Dolla.	Cts.

STOCK PURCHASED, LOST OR DIED.

Month.	Date.	NAME OF ANIMAL.	BREED.	Lost	Value	Height	AGE.	COLOR.	Value when Lost or Died.		Month.
				or Died.	When Purchased.	or Weight.			Dolls.	Cts.	

361

OR.

Month.	Date.	NAME OF ANIMAL.	BREED.	Lost *	Value	Height	AGE.	COLOR.	Value when Lost or Died.	
				or Died.	When Purchased	or Weight.			Dolla.	Cts.

CATTLE, SHEEP, OR OTHER LIVE STOCK**PURCHASED OR RAISED.**

Date.	From Whom Purchased, Or When Born.	No. of Head.	Description.	AGE.		PRICE.		AMOUNT.	
				Years.	Mos.	\$	Cts.	\$	Cts.

Date

K

CATTLE, SHEEP, OR OTHER LIVE STOCK

363

PURCHASED OR RAISED.

MOUNT.
Cts.

Date.

From Whom Purchased,
Or When Born.No. of
Head.

Description.

AGE.

PRICE.

AMOUNT.

Years.	Mo.	\$	Cts.	\$	Cts.
--------	-----	----	------	----	------

CATTLE, SHEEP, OR OTHER LIVE STOCK SOLD.

To Whom Sold.	When Sold.		Description	No. lbs.		No. of	Price.		Amount.	
	Month	Date.	Of Stock Sold.	Wool.	Hundredweight.	Head.	\$	Cts.	\$	Cts.

To W.

OLD.

CATTLE, SHEEP, OR OTHER LIVE STOCK SOLD.

365

Price.		Amount.	
\$	Cts.	\$	Cts.

To Whom Sold.	When Sold.		Description Of Stock Sold.	No. lbs.		No. of Head.	Price.		Amount.	
	Month.	Date.		Wool.	Hundredweight.		\$	Cts.	\$	Cts.

HOGS

PURCHASED OR RAISED.

Date.	From Whom Purchased, Or When Born.	No.	Description.	AGE.		PRICE.		AMOUNT.	
				Years.	Mo.	\$	Cts.	\$	Cts.

367

COUNT.
Cts.

**From Whom Purchased,
Or When Born.**

No.

Description.

AGE.

PRICE.

AMOUNT.

Years.		Mon.		PRICE.		AMOUNT.	
				\$	Cts.	\$	Cts.

HOGS SOLD AND ON HAND.

SOLD.										ON HAND.					
To Whom Sold.	No.	Description.	AGE.		PRICE.		AMOUNT.		No. on hand	PRICE.		AMOUNT.			
			Years.	Mos.	\$	Cts.	\$	Cts.		\$	Cts.	\$	Cts.		

To W

HOGS SOLD AND ON HAND.

369

ON HAND.

SOLD.

ON HAND.

PRICE. AMOUNT.
\$ Cts. \$

To Whom Sold.

No.

Description.

AGE. PRICE. AMOUNT. No. of PRICE. AMOUNT.
Years. Mos. \$ Cts. \$ Cts. hand \$ Cts. \$ Cts.

BREEDERS' RECORD.

THE HORSE TIME OF GESTATION--11 MONTHS.

	NAME OF	NAME OF	When Bred.	When Delivered.	REMARKS.
YEAR.	DAM.	SIRE.	Month. Day.	Month. Day.	YEAR.

BREEDERS' RECORD.
THE HORSE TIME OF GESTATION--11 MONTHS.

371

ARKS.

NAME OF

NAME OF _____

When Bred.

**When
Delivered.**

REMARKS.

YEAR.

DAM.

SIRE.

Month: Day. Month. Day.

BREEDERS' RECORD.
THE HORSE TIME OF GESTATION--11 MONTHS.

[illegible]

BREEDERS' RECORD.

CATTLE TIME FOR GESTATION--9 MONTHS.

MARKS.

EAR.	NAME OF	NAME OF	When Bred.	When Delivered.	REMARKS.
	COW.	SIRE.	Month. Day.	Month. Day.	



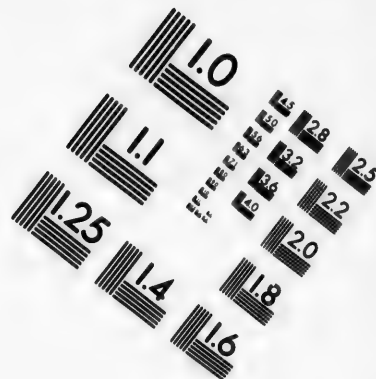
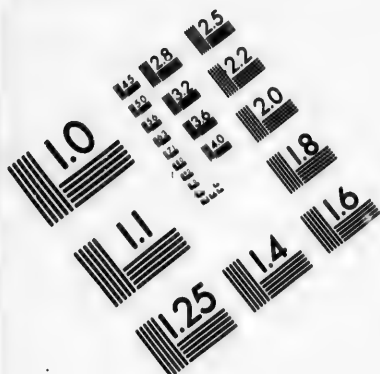
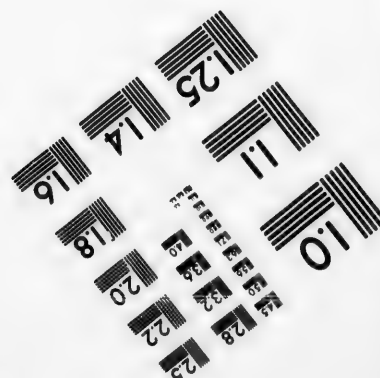
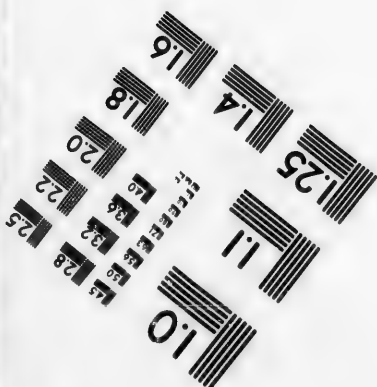
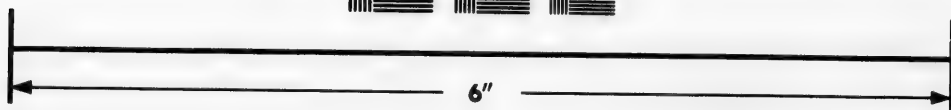
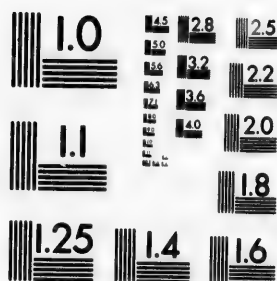


IMAGE EVALUATION TEST TARGET (MT-3)



Photographic
Sciences
Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

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92
96
100

10
11
12
13
14
15
16
17
18
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20
21
22
23
24
25
26
27
28
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31
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33
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42
43
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69
70
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BREEDERS' RECORD.**CATTLE TIME FOR GESTATION--9 MONTHS.**

	NAME OF	NAME OF	When Bred.	When Delivered.	REMARKS.
YEAR.	COW.	SIRE.	Month. Day.	Month. Day.	

YEAR.

BREEDERS' RECORD.

375

CATTLE TIME FOR GESTATION--9 MONTHS.

KS.

YEAR.	NAME OF	NAME OF	When Bred.	When	REMARKS.
	COW.	SIRE.	Month. Day.	Delivered.	
			Month. Day.	Month. Day.	

BREEDERS' RECORD.

TIME FOR GESTATION: SHEEP, 5 MONTHS 4 DAYS; HOG, 112 DAYS.

[illegible]

ARKS.

TIME FOR GESTATION: SHEEP, 5 MONTHS 4 DAYS; HOG, 112 DAYS.

NAME OF

NAME OF

When Bred.

**When
Delivered,**

REMARKS.

FEAR.

EWE OR SOW.

SIRE.

Month. Day. Month. Day.

INDIVIDUAL ACCOUNT WITH _____

DR.				CR.			
Jan 20		ITEMS.	Amount.			ITEMS.	Amount.
Month.	Date.	To	Dolls. Cts.	Month	Date.	By	Dolls Cts.
	20	1 lb. Sugar	25				
	14	1 lb. Tea	25				
	14	Sugar	25				
	14	1 lb. Green	25				
	14	1 lb. Sugar	25				
	14	1 lb. Sugar	8				
	14	1 lb. Sugar	13				
	15	1 lb. Sugar	5				
	15	1 lb. Sugar	45				
	15	1 lb. Sugar	25				
	2	1 lb. Sugar	1				
	21	1 lb. Sugar	1				
	21	1 lb. Sugar	30				
			20				
			12				

Month.

INDIVIDUAL ACCOUNT WITH

379

CR.

1904

DR.

CR.

Amount.

ITEMS.

Amount.

ITEMS.

Amount.

Dolls Cts.

Month. Date.

To

Dolls. Cts.

Month. Date.

By

Dolls. Cts.

21 to 22

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21 to 22

21 to 22

21 to 22

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21 to 22

21 to 22

INDIVIDUAL ACCOUNT WITH _____

DR.

CR.

		ITEMS.	Amount.			ITEMS.	Amount.		
Month.	Date.	To	Dolls. Cts.	Month.	Date.	By	Dolls. Cts.	Month.	

INC

INDIVIDUAL ACCOUNT WITH

381

CR.

DR.

CR.

Amount.

ITEMS.

Amount.

ITEMS.

Amount.

Dolls. Cts.

Month. Date.

To

Dolls. Cts.

Month. Date.

By

Dolls. Cts.

INDIVIDUAL ACCOUNT WITH _____

		DR.				CR.	
		ITEMS.	Amount.			ITEMS.	Amount.
Month.	Date.	<i>To</i>	Dolls. Cts.	Month.	Date.	<i>By</i>	Dolls. Cts.

IND
Month.

CR.

INDIVIDUAL ACCOUNT WITH

DR.

CR.

Amount.

Dolls. Cts.

ITEMS.

Amount.

Dolls. Cts.

Month. Date.

To

ITEMS.

Amount.

Dolls. Cts.

Month. Date.

By

INDIVIDUAL ACCOUNT WITH.....

DR.

CR.

		ITEMS.	Amount.				ITEMS.	Amount.	
Month.	Date.	<i>To</i>	Dolla.	Cts.	Month.	Date.	<i>By</i>	Dolla.	Cts.

Month

INDIVIDUAL ACCOUNT WITH _____

CR.

DR.

CR.

Amount.		ITEMS.	Amount.		ITEMS.	Amount.	
Dolls.	Cts.		Dolls.	Cts.		Dolls.	Cts.
		<i>To</i>			<i>By</i>		
Month.	Date.		Month	Date.			

INDIVIDUAL ACCOUNT WITH _____

DR.

CR.

X.

		ITEMS.	Amount.			ITEMS.	Amount.
Month.	Date.	<i>To</i>	Dolls. Cts.	Month.	Date.	<i>By</i>	Dolls. Cts.

CR.

X.

Amount.

Dolls. Cts.

INDEX.

G

H

I

J

K

L

INDEX.

M

N

O

P

Q

R

INDEX.

S

T

U

V

W

Y

Z

Agem
Anim
Admi
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Book
Bee
Bed
Balky
Birds
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Colts,
Colic in
Condit
Contra
Corns,
Contra
Colic in
Contra
Counse
Copyri
Cotton
Cow P
Crack
Crack

INDEX FOR FARMERS' MANUAL.

A		PAGE.			PAGE.			PAGE.
Agency.....	97		Cure for Galls, Cuts, Sores, Ulcers....	194		History of Trotting in America.....	173	
Animal Instinct.....	3		Curb, Cure for.....	201		Horse Department.....	172-217	
Administrators.....	125		Cribbing.....	197		Horse Buyers' Receipt.....	179	
Admission to Register (Horse Racing).....	212				D	Horse, How to Tell a Good.....	178	
Arbitration.....	133		Debts, Property Exempt.....	123		Horse, How to Tell the Age.....	180	
Arithmetic, Short Rules for.....	137, 138		Deeds.....	93, 94		Horse, How to Train, Drive and Break.....	181	
Asthma, Chicken.....	225		Deed, What it Includes.....	136		Horse, How to Pick Out a Trotter.....	183	
B		PAGE.	Dehorning Remedy.....	219		Horse, How to Tell the Disposition.....	183	
Book-Keeping.....	29, 63		Diabetes.....	207		Horse, How to Keep from Pawing in the Stall.....	186	
Bee Keeping, Home Lessons in.....	235-238		Diseases of the Horse.....	192		Horse, How to Drive Puller on the Bit.....	186	
Bed Bugs, to Destroy.....	169		Diseases of the Penis.....	202		Horse, How to Teach Tricks.....	187	
Balky Horses, How to Manage.....	186		Diseases of the Kidneys.....	207		Horse, How to Make Lie Down.....	187	
Birds and Insects.....	145		Diseases of the Liver.....	208		Horse, How to Give Medicine.....	194	
Bills.....	83, 84		Diseases of the Udder and Teats.....	209		Horse, How to Restore Appetite.....	209	
Bill of Sale.....	95		Distances for Planting.....	391		Horse, How to Enliven When Old.....	209	
Bits (Prof. Gleason).....	215		Discharge from Eye and Nose.....	203		Horse, How to Fatten When Old.....	209	
Blind Staggers.....	196		Distemper, How to Cure.....	197		Horse, How to Prevent Jumping Fences.....	216	
Blistering Liquid.....	207		Drafts.....	71-72		Horse, How Much Medicine to Give.....	211	
Black Leg.....	218		Drafts, Law Governing.....	110		Horse, How to Make Old Ones Young.....	208	
Black Tongue.....	218		Dogs, Diseases of.....	214		Horse, How to Keep from Getting Cast.....	206	
Bleeding, How to Stop.....	203		Double Entry.....	37		Horse-Breeding, Artificial.....	189-190	
Borrowing, Law of.....	130		Due Bills.....	78		Horse, To Drive to an Object He is Afraid of.....	217	
Bone Linament.....	196		Due Bills, Law Governing.....	110		Homesteads, Canadian.....	102	
Bone Spavin.....	195		Duties of Executors and Administrators.....	125		Hoof-bound or Tender Feet.....	208	
Borers.....	161		Dysentery or Flux.....	219-221		Hoof Evil.....	208	
Bots.....	199				E	Hoof Ointment.....	205	
Breaking Wild and Ugly Horses.....	210		Eggs and Egg Food Powder.....	226		Hogs, How to Doctor.....	222	
Breeding Tables.....	229-231		Eggs, To Pickle.....	226		Hogs, How to Catch.....	222	
Breeding Horses.....	177		Elections, Who Can Vote.....	99		Hog Cholera, How to Treat.....	222-223	
Bridle, Eureka, Prof. Gleason's.....	185		Executors, Duties of.....	125		Hollow Horn.....	218	
Bridling Horses.....	194		Epizootic.....	197		Host and Guest.....	105	
Broken Leg of a Horse, How to Set and Cure.....	199		Eureka Bridles.....	185		How to Succeed.....	6, 7	
Bronchitis.....	221		Eye Wash for Horses.....	208		How to Write All Kinds of Notes.....	64	
C		PAGE.			F	How to Clean Leather.....	211	
Canker.....	208		Fertilizers and Manures.....	239-241		How to Foretell the Weather.....	227	
Cattle, How to Doctor.....	218		Fever (Chicken).....	225		How to Use the Breeders' Tables.....	229	
Cattle Colic, or Hoove.....	219		Fistula.....	201				I
Catarrh.....	221		Fits.....	206		Indorsements.....	80-82	
Castration.....	207		Flora Temple.....	174		Influenza.....	197	
Cake Bag.....	205		Forgery.....	111		Inflammation of the Brain.....	218	
Catapillars, How to Destroy.....	163		Founder.....	199		Inflammation of the Kidneys.....	200, 218	
Chattel Mortgages.....	88, 89, 90		Fruit Trees and Shrubs.....	154		Inflammation of the Lungs.....	200	
Chariot Races.....	118				G	Inflammation of the Bladder.....	218	
Champion Pacing Horses.....	172, 182, 191, 204		Gapes.....	225		Inflammation of the Bowels.....	218	
Checks.....	69, 70		Garget in Bag.....	205		Insects, All About.....	144-171	
Checks, Law Governing.....	110		Getting on in the World.....	6, 7		Insects Injurious to Vegetation.....	147	
Check-Rein, Its Use and Abuse.....	184, 216		Gifts, Legal.....	114		Insects, Names of, Simplified.....	150	
Choked Cattle.....	205		Glanders.....	202		Insect Remedies and How to Apply Them.....	170	
Chicken Cholera.....	227		Good Advice.....	5		Insecticides and How to Use.....	152-153	
Chicken Mites.....	227		Gould, Jay.....	30		Instructions for Using Farmers' Manual.....	4	
Colts, to Break and Train.....	225		Grain Tables, etc.....	232		Interest Tables.....	141-143	
Colts, to Break and Train.....	175, 176		Gravel in Horses.....	205		Interest and Usury, Law of.....	139	
Colic in Sheep.....	217		Grease Heels.....	208		Interest, Methods of Calculating.....	139-140	
Condition Powder.....	205		Groggy Knees.....	207		Itch, Cure For.....	203	
Contracted Feet in Horses, Cure for.....	197				H	Jaundice or Yellow Water.....	205	
Corns, Cure for.....	197, 201		Hal Pointer.....	196		Jay-eye-see.....	178	
Contraction of Tendon of the Neck.....	208		Halter Pulling, To Cure.....	193				K
Colic in Horses.....	200		Halter, Safest Way to Tie.....	186		Kicking Horse, How to Drive and Shoe.....	185	
Contracts.....	112-114		Harness and Saddle Galls.....	201				L
Contracts, How to Write.....	112-114		Heaves.....	200		Lampas.....	197	
Counsels, Taxes, etc.....	97, 98		Hens' Lice, How to Destroy.....	225		Lameness.....	220	
Copyright.....	106		Hired Help, Law on.....	126		Land-Renting.....	117	
Cotton Worm.....	169		Hidebound.....	201		Land Contract.....	92	
Cow Fox.....	219		Hiring, Law of.....	130				
Cracks.....	209							
Cracked Heels.....	202							

	PAGE.
Land, How Surveyed.....	102
Land, How to Locate.....	103
Law-Suit Illustrated.....	133-134
Law Concerning Public Schools.....	108
Law Concerning Parent and Child.....	116
Law Concerning Sales.....	119
Law Concerning Interest and Usury.....	139
Law on Railway Fares and Tickets.....	99
Law on Ditches, Line Fences, etc.....	100
Law on Peddling, Opening Letters, etc.....	99
Law on Leases.....	117-119
Law on Lending.....	130
Leather, to Clean.....	211
Leases.....	85-87
Legal and Business Instruction.....	97
Legal Principles of Law.....	122
Legal Rights and Wrongs.....	134
Lice, To Destroy on Dogs.....	214
Lice, To Destroy on Horses and Cattle.....	214
Lien Agreements.....	67
Lightning Rod Swindle.....	79
Lock-Jaw.....	201
Locust.....	158
Loss of Feathers.....	225
Lung Fever.....	221
Liniments, Recipe for All Kinds.....	205, 211
M	
Mange, Lotion for.....	203
Maggot's.....	221
Manures.....	239-241
Markets.....	100
Marring Contracts.....	115
Married Women, Rights of.....	98
Maxims, Business.....	232-233
Mites that Infest the Horse.....	203
Mortgages.....	88-90
Mortgages, Law Governing.....	120
Moths.....	191
Mud Fever.....	202
Murrain.....	219
N	
Nancy Hanks.....	209
Notes.....	64-68
Notes, Laws Concerning.....	109
Nasal Gleet.....	203
O	
Ointment for Horses.....	202
Orders.....	77-78
Orders, Law Governing.....	110

	PAGE.
P	
Pacing Standard.....	212
Parent and Child, Laws Concerning.....	116
Passengers, Transportation of.....	104
Patents, General Facts Regarding.....	105
Penmanship.....	8-28
Physic Ball.....	207
Pleuro-Pneumonia.....	219
Poll Evil.....	106
Poultry, How to Keep.....	224
Premature Birth (Horses).....	213
Property that Cannot be Seized.....	123
Public Schools.....	108
R	
Railroad, Liability of.....	104
Real Estate, Rules for Buying.....	135
Receipts.....	73-76
Receipts, Law Concerning.....	110
Renting Land.....	117
Ring-Bone.....	195
Right of Married Women to Own Property.....	107
Rot.....	221
Rules for Registering Horses.....	212
S	
Safe Business Methods and Good Advice.....	5
Sales, Law Governing.....	119
Salve of All Kinds.....	210
Scabs or Mange.....	221
Scaly Legs.....	226
Scouring in Horses or Cattle.....	205
Scratches.....	202
Self-made Men.....	7
Self-Sucking Cow.....	220
Sheep, How to Doctor.....	221
Sheep, Tick and Lice.....	221
Shoulder-Joint Lameness.....	195-210
Single Entry.....	35
Simple Contrivance for Lifting Beef.....	220
Sores.....	210
Sore Mouth.....	201, 208, 210
Sore Back.....	208
Sore Teats and Scabs.....	209, 219
Spavin.....	195
Splint.....	195
Spraying.....	154

	PAGE.
Staggers.....	196, 205
Stifle.....	211
Stifle Joint Lameness.....	202
Stoppage of the Bowels.....	211
Strains and Swellings.....	206
Strength of Horses Drawing.....	185
String Halt.....	205
Sweeney.....	194
Swindling Note.....	79
Swollen Legs.....	202
T	
Tenants, Law of.....	117
Tender Feet.....	208
There is Always Profit in Good Farming.....	132
The First Plow.....	213
Thrush.....	208, 210
Thumps.....	199
Tonics.....	210
Tracing Process.....	10
Trotting Horses 173, 179, 188, 190, 198, 207.....	222
Trichinea.....	227
Tumors of the Udder.....	209
U	
Underdraining.....	234
Useful Tables.....	232, 391
V	
Veterinary Department.....	192
Voting, Qualifications for.....	101
W	
Wages, Table of.....	129
Warranties, Law Governing.....	111
Warts on Horses and Cattle.....	205-209
Water Farcy.....	207
Weak Tendons, Cure For.....	196
Weather Signals.....	227
Weather Wisdom.....	228
Wind-Galls.....	201
Wills.....	95-96
Wills, Law Governing.....	124
Wolf-Teeth.....	209
Worms.....	196
Y	
Yellow Water.....	205, 208

INDEX FOR THE BLANK BOOK DEPARTMENT.

	PAGE.
Breeder's Record.....	370-377
Cash Account.....	268-291
Cattle, Sheep or Live Stock, Purchased or Raised.....	362-363
Cattle, Sheep or Live Stock Sold.....	364-365
Dairy Account.....	350-357

	PAGE.
Fruit Account.....	358-359
General Record.....	292-297
Grain and Hay Account.....	298-301
Hired Help Account.....	252-267
Hogs Purchased or Raised.....	366-367
Hogs Sold and on Hand.....	368-369
Individual Accounts.....	378-386

	PAGE.
Index to Same.....	387-388
Purchase Account.....	302-321
Poultry and Egg Account.....	346-349
Sales Account.....	322-345
Stock Purchased, Lost or Died.....	360-361
Weather Notes.....	246-251

Apples
Apples
Pears
Pears
Quince
Peaches
Plums
Cherries
Figs
Japan
Mulberry

DIST
INCH

1 x
1 x
1 x
1 x
2 x
2 x
2 x
3 x
3 x
3 x
4 x
4 x
5 x
6 x

true source
You will find

J. L. N.

PAGE.

.....196, 205
.....211
.....202
.....211
.....206
.....185
.....206
.....194
.....194
.....202

.....117
.....208
in Good Farming 134
.....213
.....208, 210
.....199
.....210
.....10
79, 188, 190, 198, 207
.....222
.....209

.....234
.....234, 391

.....192
for.....101

.....129
.....111
Cattle.....205-209
.....207
For.....196
.....228
.....201
.....95-96
.....124
.....209
.....196

.....205, 208

.....207
.....201
.....95-96
.....124
.....209
.....196

.....205, 208

.....207
.....201
.....95-96
.....124
.....209
.....196

.....205, 208

.....207
.....201
.....95-96
.....124
.....209
.....196

.....205, 208

.....207
.....201
.....95-96
.....124
.....209
.....196

.....205, 208

USEFUL TABLES.

DISTANCES RECOMMENDED FOR PLANTING.

Apples (standard).....	20 to 30 feet each way.	Blackberries.....	6 to 8 feet by 4 feet.
Apples (dwarf).....	6 to 10 " " "	Raspberries.....	6 by 2 "
Pears (standard).....	20 " " "	Currants.....	4 to 5 feet by 4 feet.
Pears (dwarf).....	10 to 15 " " "	Gooseberries.....	4 to 5 " " "
Quinces.....	12 " " "	Strawberries:	
Peaches.....	20 to 25 " " "	Hills.....	15 x 15 inches.
Plums.....	15 to 20 " " "	Matted rows.....	4 x 1 foot.
Cherries.....	14 to 20 " " "	Asparagus.....	4 x 2 feet.
Figs.....	10 to 15 " " "	Rhubarb.....	4 x 2 "
Japan Persimmons.....	20 to 25 " " "	Grapes.....	8 x 9 "
Mulberries.....	20 to 25 " " "	Oranges.....	30 x 30 "

NUMBER OF PLANTS PER ACRE AT VARIOUS DISTANCES.

DIST. INCHES.	PLANTS.	DIST. INCHES.	PLANTS.	DIST. FEET.	PLANTS.	DIST. FEET.	PLANTS.	DIST. FEET.	PLANTS.	DIST. FEET.	PLANTS.
1 x 1	6,272,640	7 x 7	128,013	1 x 1	43,560	4 x 5	2,178	7 x 9	691	10 x 20	217
1 x 3	2,090,880	8 x 8	98,010	1 x 2	21,780	4 x 6	1,816	7 x 10	622	12 x 12	302
1 x 4	1,568,160	9 x 9	77,440	1 x 3	14,520	4 x 7	1,556	8 x 8	680	12 x 15	242
1 x 5	1,254,527	10 x 10	62,726	1 x 4	10,890	5 x 5	1,742	8 x 9	605	12 x 20	181
2 x 2	1,568,160	10 x 20	31,362	1 x 5	8,712	5 x 6	1,452	8 x 10	554	15 x 15	193
2 x 3	1,045,440	10 x 24	26,132	2 x 2	10,890	5 x 7	1,242	8 x 11	495	15 x 18	161
2 x 4	784,080	10 x 30	20,908	2 x 3	7,260	5 x 8	1,080	8 x 12	453	15 x 20	145
2 x 5	627,264	10 x 36	17,424	2 x 4	5,445	5 x 9	968	9 x 9	537	18 x 18	131
3 x 3	696,960	10 x 48	13,068	2 x 5	4,356	6 x 6	1,210	9 x 10	484	18 x 20	121
3 x 4	522,720	15 x 15	27,878	3 x 3	4,840	6 x 7	1,037	9 x 11	440	20 x 24	100
3 x 5	318,175	15 x 30	13,939	3 x 4	3,630	6 x 8	907	10 x 10	403	20 x 24	90
4 x 4	392,040	15 x 36	11,616	3 x 5	2,904	6 x 9	808	10 x 12	363	20 x 30	72
4 x 5	313,642	18 x 36	9,680	3 x 6	2,420	6 x 10	726	10 x 15	290	30 x 24	60
5 x 5	250,905	18 x 48	7,260	3 x 7	2,074	7 x 7	888	10 x 18	242	30 x 30	48
6 x 6	174,240			4 x 4	2,722	7 x 8	777			30 x 36	40



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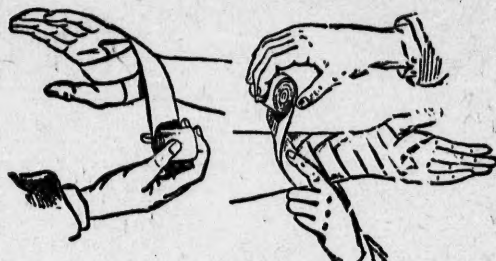
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